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CIBCR

RECESSION–RECOVERY WATCH...

A Quarterly Report Designed to Assist in the Evaluation of Current Business Conditions

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Summary

Although a recession has not yet been officially identified by the National Bureau of Economic Research, there is persuasive evidence that a recession has been underway since June. With the release on November 30 of the Commerce Department's leading and coincident indexes for October, the final signal of recession in our signal system was reached. Our international indicators also point in that direction, a development that dims the outlook for U.S. exports. Moreover, if account is taken of recent changes in the U.S. terms of trade, the growth of real GNP in the third quarter is much smaller than is shown by the widely used figures that make no allowance for this. So far, there are not many clues as to the recession's length or severity, but if it proves to be about average we should look for initial signs of recovery by next spring.

The Final Signal of Recession

As noted in the October 4 Recession-Recovery Watch Flash, the August figures for the Commerce Department's leading and coincident indexes registered a P2 recession signal. This

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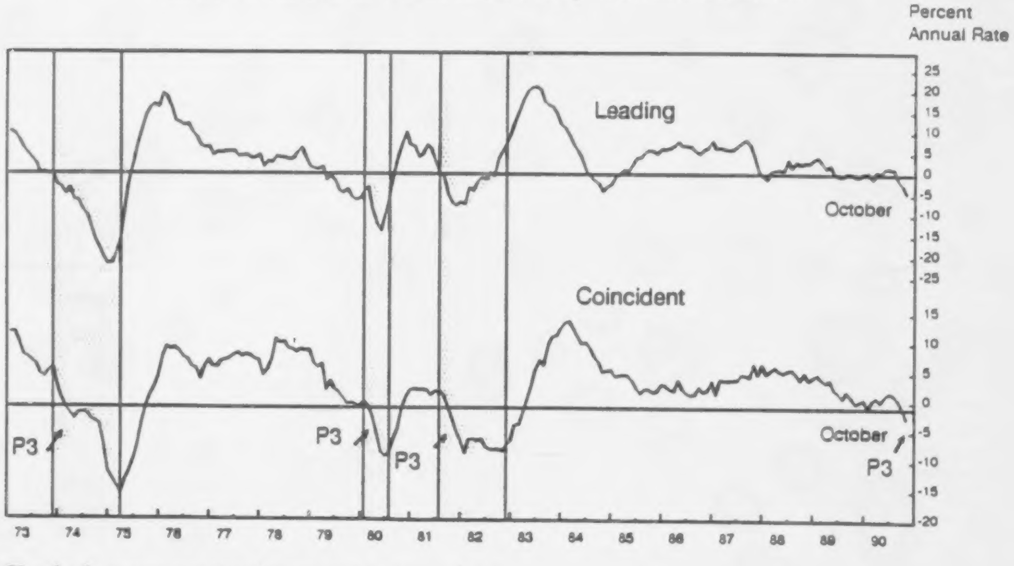
occurs when the leading index growth rate falls below -1.0% and the coincident rate falls below 2.3%. In August, these rates were –1.2% and 0.2%, respectively. The history of P2 signals, in Table A, shows that it has recognized every one of the seven business cycle peaks since 1953 with no more than a two-month lag. The P2 signal proved to be false on two occasions (1951 and 1967), when slowdowns but no recession took place.

The final signal in our system, P3, occurs when the coincident growth rate declines below -1.0% and the leading rate remains below zero. The October indexes, released by the Commerce Department on November 30, produced the P3 signal, with the leading and coincident growth rates at -4.3% and -2.6%, respectively (Chart A). That signal has produced no false alarms and has lagged business cycle peaks by one to three months (once as long as five months). If June 1990 proves to be the business cycle peak (see below), the four-month lag of the P3 signal will be within its range at previous business cycle peaks.

When Did the Recession Start?

Although the National Bureau of Economic Research, which for many years has designated business cycle peak and trough dates, has not decided the issue currently, the evidence that the slowdown that began in February 1989 has turned into recession during 1990 has been accumulating. Some of the evidence is assembled in Table B, which provides monthly and quarterly data on various measures of aggregate economic activity. This is the type of information that the Business Cycle Dating Committee of the National Bureau of Economic Research

Chart A.
Growth Rates of Commerce Department Indexes



Shaded areas are business cycle recessions.

TABLE A.
RECORD OF P2 AND P3 RECESSION SIGNALS

Business Cycle Peak	P2 Signal (L<-1.0, C<2.3)	P3 Signal (L<0, C<-1.0)	Lead (-) or Lag (+), in Months, at Business Cycle Peaks P2	P3
11/48	n.a.	1/49*	n.a.	+2
none	7/51	---	---	---
7/53	8/53	9/53	+1	+2
8/57	7/56	9/57	-13	+1
4/60	5/60	9/60	+1	+5
none	4/67	---	---	---
12/69	12/69	2/70	0	+2
11/73	1/74	2/74	+2	+3
1/80	4/79	3/80	-9	+2
7/81	9/81	10/81	+2	+3
Mean			-3	+2
Standard Deviation			5	1
6/90**	8/90***	10/90	+2	+4

Note: For earlier warning signals (LLP1 and P1) see *Recession-Recovery Watch*, August 1990. Growth rates are six-month smoothed rates based on the Commerce Department's leading (L) and coincident (C) indexes.

* Growth rate data begin January 1949, so P3 signal might be earlier.

** Tentative.

*** An earlier P2 signal (2/90) was canceled 5/90 when L > 1.0.

Center for International Business Cycle Research, November 1990.

TABLE B.

MEASURES OF AGGREGATE ECONOMIC ACTIVITY IN THE UNITED STATES SINCE APRIL 1990

INDIVIDUAL INDICATORS	Unit	--------Monthly Data-------- April	May	June	July	Aug.	Sept.	Oct.	Monthly High to Date	Quarterly Data II	III	Quarterly High to Date
Total employment	mil.	119.8	120.0-	120.0+	119.6	119.3	119.5	119.3	June	119.9	199.5	II
Nonfarm payroll employment	mil.	110.2	110.6-	110.8+	110.7	110.6	110.6	110.5	June	110.5	110.6	III
Nonfarm employee-hours, ann. rate	bil.	203.5	205.2	206.1	205.6	204.9	205.8	203.7	June	204.9	205.4	III
Unemployment rate, total	%	5.3	5.3	5.1	5.4	5.5	5.6	5.6	June	5.2	5.5	II
Industrial production index	1987-100	108.8	109.4	110.1	110.4	110.4	110.5	109.6	Sept.	109.4	110.4	III
Real personal income ex. trans. pay.	bil. 1982$	2909	2909	2912	2920	2908	2898	2880	July	2910	2909	II
Real mfg. & trade sales	bil. 1982$	477.9	482.4	485.4	482.4	486.4	480.5		Aug.	481.9	483.6	III
Real retail sales	bil. 1982$	121.3	121.1	122.1	122.6	121.3	121.5		July	121.5	121.8	III
Bus. Week Production Index	1967-100	178.3	178.6	180.6	180.5	181.1	182.9	180.4	Sept.	179.1	180.8	III
NAPM Production Survey	%	53.0	56.3	53.9	52.1	48.5	45.1	43.0	July[a]	54.4	48.6	II[a]
Real GNP	bil. 1982$	-	-	-	-	-	-	-	-	4155	4174	III
COMPOSITE INDEXES												
BEA Coincident Index	1982-100	133.7	134.4	134.9	134.7	134.4	133.3	132.0	June	134.3	134.1	II
IEI Coincident Index	1980-100	128.3	128.7	129.3	128.8	128.7	127.8	127.0	June	128.8	128.4	II
CIBCR Coincident Employment Index	1967-100	218.5	220.1	221.5	219.7	218.6	218.6	216.7	June	220.0	219.0	II
SUMMARY												
Number reaching highs to date		0	0	7	3	1	2	0		7	7	

[a] Latest month or quarter above 50%.

Center for International Business Cycle Research, November 1990.

will consider when it meets to decide when the recession began. It shows that the monthly highs to date in these measures of production, employment, income and sales were scattered from June to September. About half of the measures, including all three of the composite coincident indexes, reached their highs in June. When converted to quarterly averages half reached their highs in the second quarter, half in the third. Real GNP is in the third quarter group, at least in terms of the preliminary estimates now available.

Our own view is that June would be the best choice for a business cycle peak date, assuming that these measures continue to decline in future months. The assumption is important, because the declines to date are neither large enough nor long enough to qualify as cyclical. But the declines have clearly extended into October and November, and most of the leading indexes shown elsewhere in this report suggest that more declines lie ahead. As noted below, recessionary developments have spread to a number of other countries, and this weakens the prospects for the U.S. economy too.

An International Recession

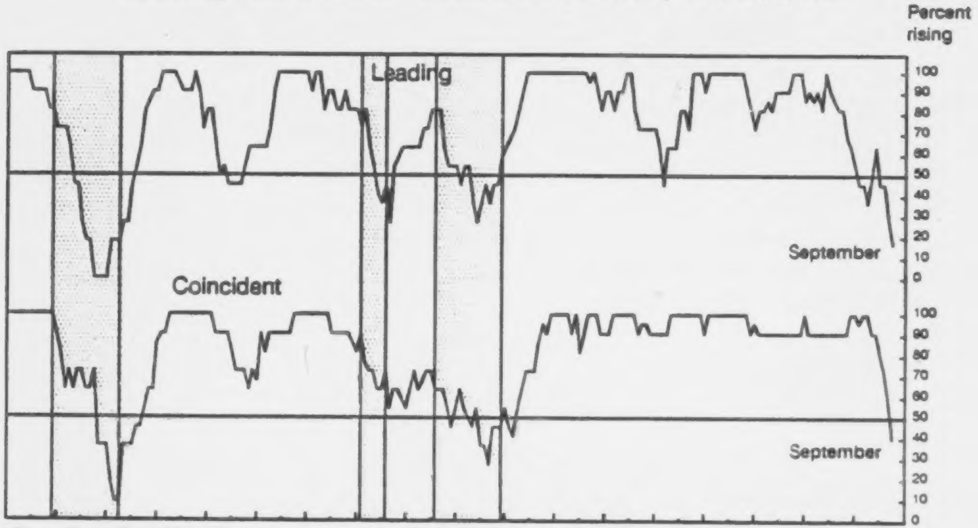
One of the factors that distinguishes serious recessions from mere slowdowns is that the serious ones are international in scope. In the present case, declines in overall economic activity are becoming widespread internationally. As Chart B shows, in August and September the percentage of rising leading and coincident indexes among the eleven nations covered by CIBCR's International Economic Indicators had fallen well below 50 percent for the first time since 1982. In this chart the leading and coincident indexes are counted separately. Similar results are obtained when the leading indexes are counted together with the coincident, making 22 indexes in all. The history of this index is shown in Chart C.

The chart shows clearly that every recession in the U.S. economy since 1956 has become international in scope, though to a lesser degree in the mild recessions of 1960-61, 1969-70, and 1980. If we measure the severity of recessions by the percentage decline in real GNP, a close relation appears between the international scope of recessions and their severity in the United States, as shown in Table C.

The percentage of the leading and coincident indexes rising in September (28%), is preliminary, since only 11 of the 22 indexes are available. The August figure, at 45%, covered 20 indexes. Since the August and September indexes are the first to show the effect of the Persian Gulf crisis, it seems likely that the final returns for September will indicate an international recession of at least average scope and severity.

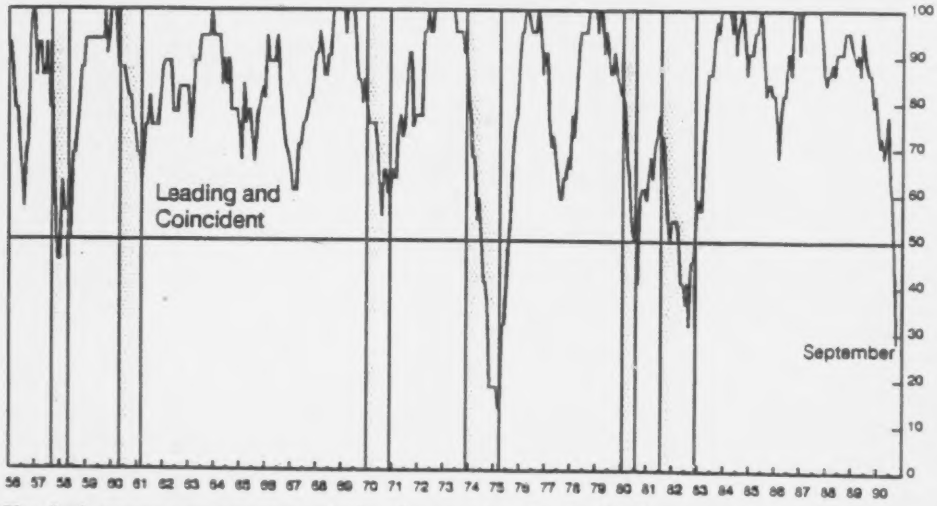
A widespread international recession has depressing implications for U.S. exports. In each of the three mild recessions since 1957 the growth of exports of goods and services slowed to one or two percent on a year-over-year basis. In each of the three sharp recessions the volume of exports declined, on average, by eight percent. The recent decline in the dollar exchange rate may alleviate the situation somewhat, but reversing the effect of an international recession is no small task.

Chart B.
Leading and Coincident Difusion Indexes, 11 Countries



Shaded areas represent periods of recessions in the U.S. economy. The 11 countries are: United States, Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, South Korea, and New Zealand.

Chart C.
Average of Leading and Coincident Diffusion Indexes, 11 Countries



Shaded areas represent periods of recession in the U.S. economy.

TABLE C
SEVERITY AND INTERNATIONAL SCOPE OF U.S. RECESSIONS

Recession Dates Peak (1)	Recession Dates Trough (2)	Percent Change in Real GNP from High to Low (3)	Lowest Percent of Leading and Coincident Indexes Rising, 11 countries Percent (4)	Lowest Percent of Leading and Coincident Indexes Rising, 11 countries Date (5)
8/57	4/58	-3.5	46	11/57
4/60	2/61	-1.0	62	2/61
12/69	11/70	-1.1	55	7/70
11/73	3/75	-4.3	14	2/75
1/80	7/80	-2.3	41	8/80
7/81	11/82	-3.4	32	8/82
Averages:				
3 Mild Recessions ('60,'69,'80)		-1.5	53	
3 Sharp Recessions ('57,'73,'81)		-3.7	31	
6 Recessions		-2.6	42	

Correlation between Severity and International Scope (Cols. 3 and 4): RSQ = .79

Center for International Business Cycle Research, November 1990.

Real GNP Growth: Another Look

Did real GNP growth speed up or slow down between the second and third quarters? The most widely used figures show an acceleration from 0.4% in the second quarter to 1.7% in the third, both at annual rates. But another set of figures, also published by the Commerce Department, show the opposite – a slowdown from 1.8% to 0.5%. Since GNP expressed in current dollars grew at virtually the same rate in both quarters (5.1% in the second, 5.8% in the third), the anomaly has to do with how the figures are deflated. The estimates that show an acceleration in real growth imply that inflation slowed down from 4.7% in the second quarter to 4.0% in the third. The other estimates imply that inflation speeded up, from 3.4% to 5.0%. In view of the effect of the Persian Gulf crisis on oil prices and the more rapid growth in consumer and producer price indexes in August and September, the GNP figures that exhibit a speed-up in inflation and a slowdown in real growth appear to be more plausible.

The culprit in this scenario is the trade balance. Its movements now have a substantial impact on GNP, and alternative ways of adjusting it for price changes also have a big effect. Gross domestic purchases (GDP), which is GNP excluding net exports, rose faster in the third quarter than in the second. In current dollars the increases were 4.7% and 6.9%, respectively, in the second and third quarters. The price deflator for GDP also rose faster (3.5% to 5.0%), but not enough to fully offset the acceleration in current dollar purchases, so the growth in GDP in 1982 dollars advanced from 1.3% to 1.8%. But the trade deficit (net exports) worsened between the second and third quarters, going from -24.9 billion to -39.2 billion dollars. The negative impact of that on current dollar GNP was sufficient to make its growth rate nearly the same in both quarters, as noted above.

The impact of net exports on *real* GNP depends significantly on how the net export balance is deflated. Since the prices of exports, imports and most everything else are higher now than in 1982, one might think that expressing net exports in 1982 dollars would reduce the figures. But according to the principal method used by the Commerce Department that is not so. In each of the first three quarters of 1990 the net exports figures are larger in 1982 dollars than in current dollars. Moreover, they move very differently. Whereas in current dollars the net exports deficit became much bigger, in 1982 dollars the deficit was only slightly larger in the third quarter than in the second. The implicit price deflator for net exports rose at an annual rate of 488% between the two quarters, and hence almost erased the sharp advance of the deficit in current dollars. As a result, the depressing effect of the trade deficit on real GNP growth was largely removed (see Table D, Commerce I method).

The alternative method of deflating net exports used by Commerce is called the "command-basis" method. It expresses net exports in terms of the price level of imports, showing what volume of imports could be bought with the current dollar value of net exports. Since import prices have risen only moderately since 1982, this method makes net exports in 1982 dollars only moderately lower than in current dollars, so the negative impact of the trade deficit on real GNP growth remains in place. The growth rate of "command-basis" real GNP dropped from 1.8% to 0.5% in the third quarter, and the implicit price deflator for GNP speeded up, from 3.4% to 5.0% (see Commerce II results in Table D).

TABLE D.
ALTERNATIVE ESTIMATES OF THE TRADE BALANCE AND REAL GNP, 1990

	----------1990---------			Percent Change, Annual Rate	
	Q1	Q2	Q3	Q1 -Q2	Q2 -Q3
Exports, current $, bil.	661.3	659.7	667.7	-1.0	4.9
Exports, 1982 $, bil.	628.1	620.1	626.7	-5.0	4.3
Export Price Deflator, 1982=100	105.3	106.4	106.5	4.2	0.4
Imports, current $, bil.	691.3	684.6	706.9	-3.9	13.7
Imports, 1982 $ bil.	663.5	664.7	671.8	0.7	4.3
Import Price Deflator, 1982=100	104.2	103.0	105.2	-4.5	8.8
Net Exports, current $, bil.	-30.0	-24.9	-39.2	5.1[a]	-14.3[a]
Net Exports, 1982 $, bil.					
Commerce-I	-35.4	-44.6	-45.1	-9.2[a]	-0.5[a]
Commerce-II	-28.8	-24.2	-37.3	4.6[a]	-13.1[a]
CIBCR	-23.2	-19.1	-29.7	4.1[a]	-10.6[a]
Net Exports Price Deflator, 1982=100					
Commerce-I	84.7	55.8	86.9	-86.9	488.2
Commerce-II	104.2	103.0	105.3	-4.2	8.8
CIBCR	129.1	130.2	131.8	3.8	5.0
Gross Domestic Purchases (GDP)					
Current $, bil.	5405.3	5468.2	5559.9	4.7	6.9
1982 $, bil.	4185.9	4199.7	4218.2	1.3	1.8
Price Deflator, 1982=100	129.1	130.2	131.8	3.5	5.0
Gross National Product (GNP)					
Current $, bil.	5375.4	5443.3	5520.6	5.1	5.8
1982 $, bil., Commerce-I	4150.6	4155.1	4173.1	0.4	1.7
1982 $, bil., Commerce-II	4157.2	4175.5	4180.9	1.8	0.5
1982 $, bil., CIBCR	4162.8	4180.6	4188.5	1.7	0.8
GNP Price Deflator, 1982=100					
Commerce-I	129.5	131.0	132.3	4.7	4.0
Commerce-II	129.3	130.4	132.0	3.4	5.0
CIBCR	129.1	130.2	131.8	3.5	5.0

Note: Commerce I figures are the most widely published. Commerce II figures are the "command-basis," using the import price deflator to deflate net exports. CIBCR uses the GDP deflator to deflate net exports.

[a] Billion dollars

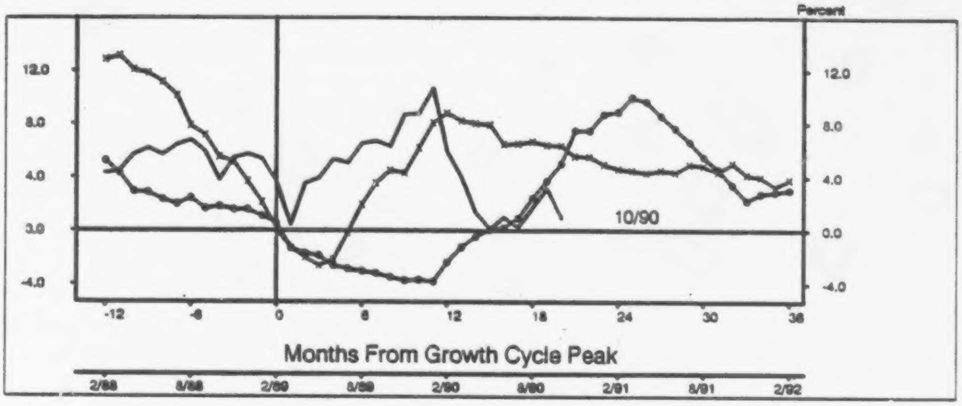
Center for International Business Cycle Research, November 28, 1990.

Still another alternative method of deflating net exports, which was advocated many years ago by two specialists in national income accounting, Solomon Fabricant and Simon Kuznets, is to use the gross domestic purchases deflator for that purpose. This price index covers everything in GNP except net exports, and hence is the broadest measure of the general price level for goods and services purchased here. It clearly has merit as a measure of the value of the trade surplus or deficit to us, and using it for that purpose makes it the deflator for real GNP. In this instance it provides results similar to those of command-basis real GNP, with growth rates of 1.7% and 0.8% in the second and third quarters. By either of the alternative methods real GNP growth slowed in the third quarter.

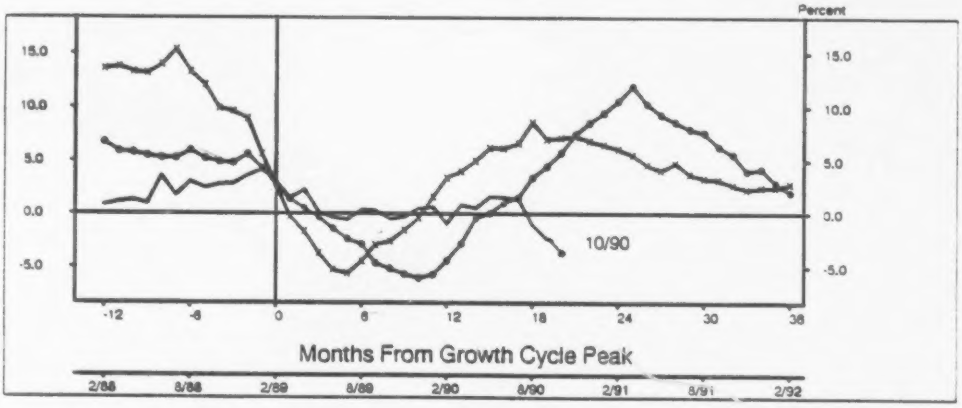
Both these alternative methods of allowing for price changes affecting the trade balance allow changes in the relation between import and export prices — the terms of trade — to affect real GNP. If import prices decline and export prices rise, the terms of trade have improved and the country has a real benefit, even though the physical volume of exports and imports may have remained the same. The difference between the two alternative methods of deflating net exports lies in whether the value of that benefit is measured in terms of the prices of imported goods and services, or in terms of the prices of all domestically traded goods and services.

Charts D, E and F.

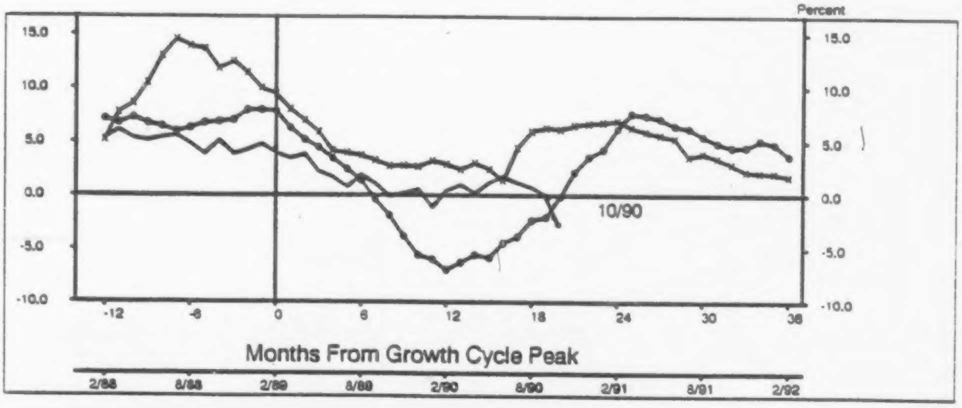
D. Long-Leading Index Growth Rates Before and After Growth Cycle Peaks



E. BEA Leading Index Growth Rates Before and After Growth Cycle Peaks



F. BEA Coincident Index Growth Rates Before and After Growth Cycle Peaks



Four Slowdowns *Not Followed by Recession.*
Seven Slowdowns Followed by Recession.
Current Slowdown.

Chart G.
Business Week Leading Index Growth Rates Before and After Growth Cycle Peaks

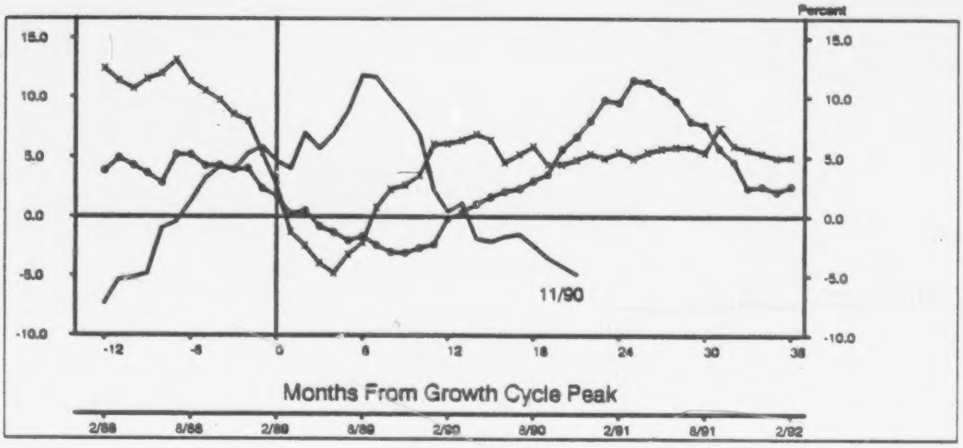
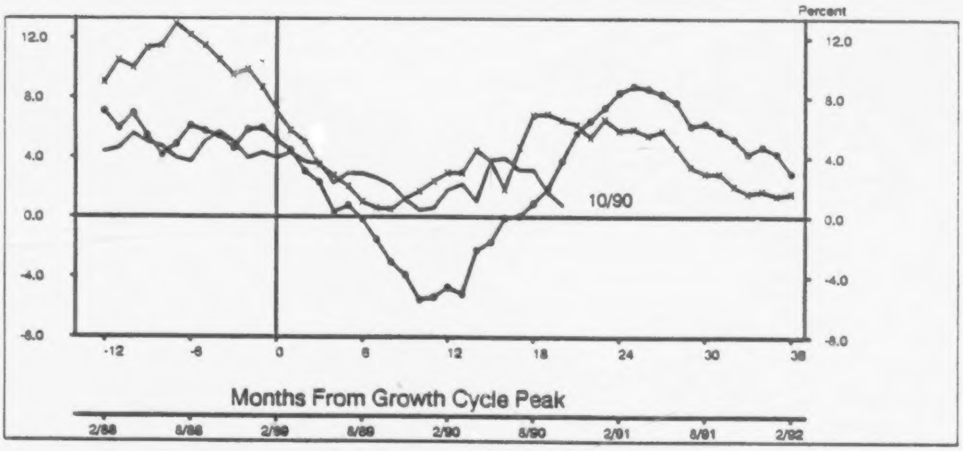


Chart H.
Leading Employment Index Growth Rates Before and After Growth Cycle Peaks



Four Slowdowns *Not Followed by Recession.*
Seven Slowdowns Followed by Recession.
Current Slowdown.

Chart I.
Leading Inflation Index Before and After Growth Cycle Peaks

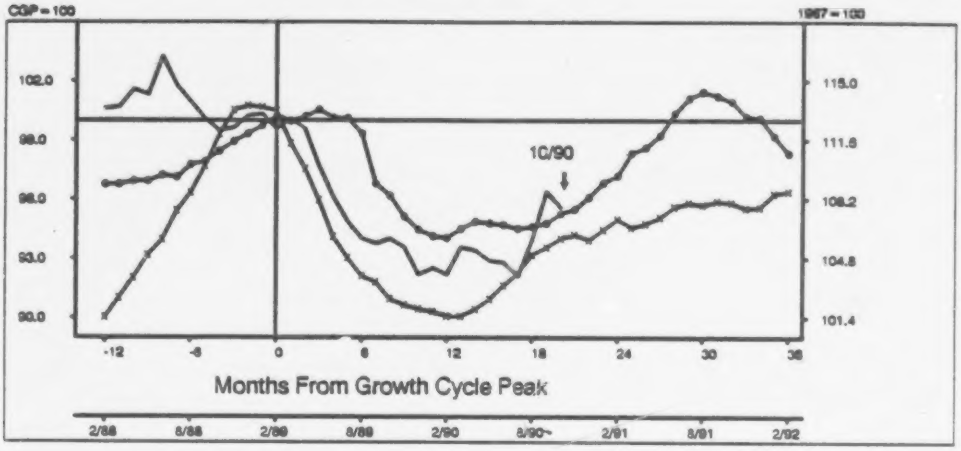
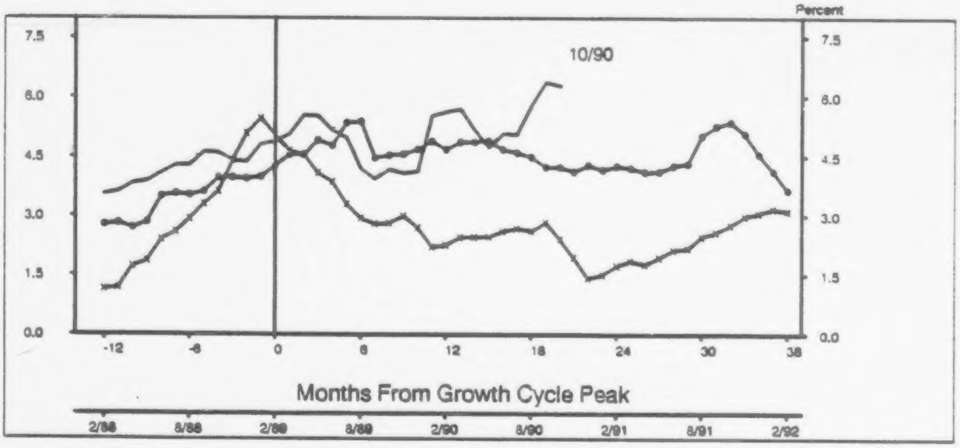
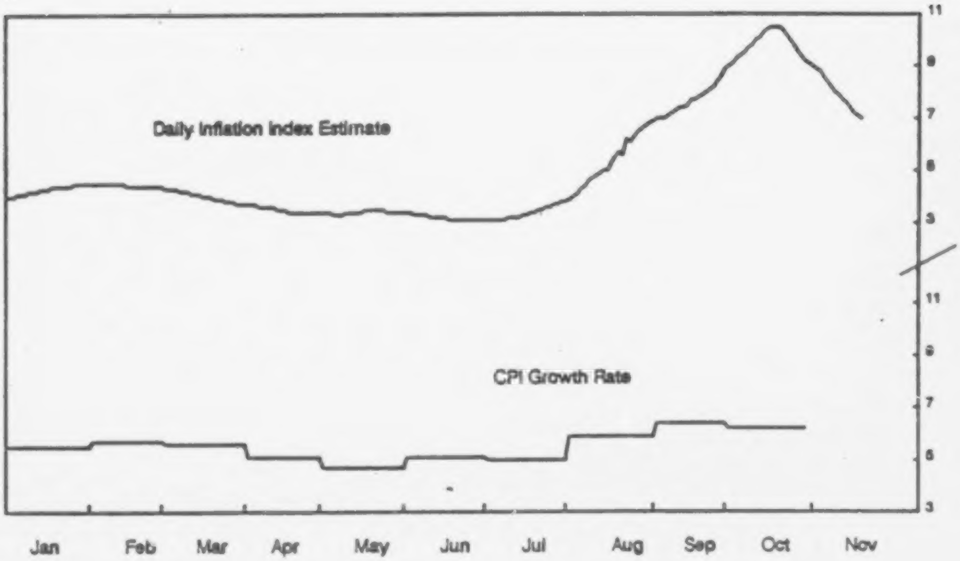


Chart J.
Consumer Price Index Growth Rates Before and After Growth Cycle Peaks

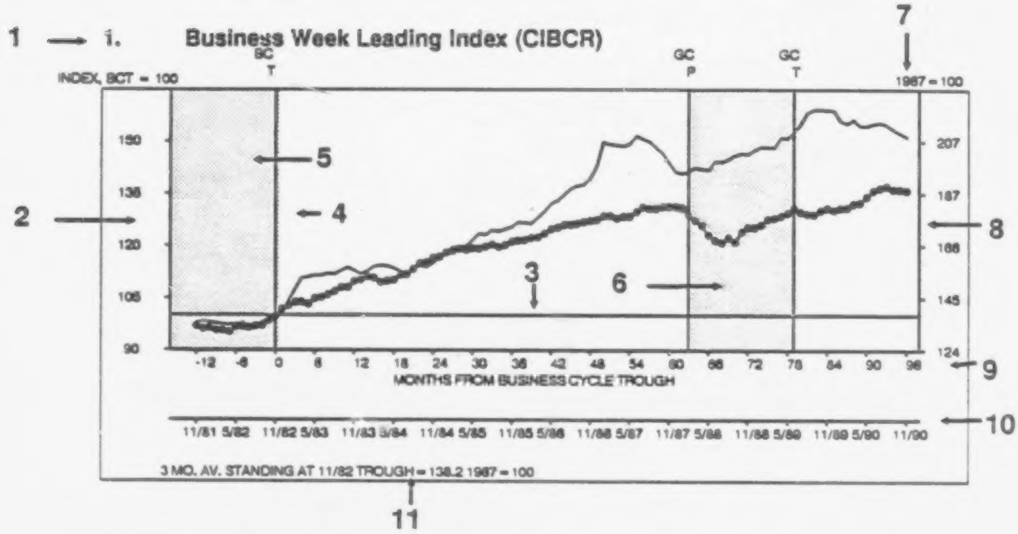


Four Slowdowns *Not Followed by Recession.*
Seven Slowdowns Followed by Recession.
Current Slowdown.

Chart K.
Two Measures of the Rate of Inflation:
Daily Inflation Index (CIBCR) and Consumer Price Index (BLS)



HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the actual level rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in both current and past expansion, as a percentage of business cycle trough (BCT) standings. This is the common vertical scale along which the expansions are compared.

3 HORIZONTAL LINE shows levels at reference trough (100) for current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansion, which are all aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT) represents the 1966-67 growth recession.

7 UNITS for right-hand scale refer only to the current expansion.

8 RIGHT-HAND SCALE refers only to the current expansion. It is a transformation of the left-hand scale to show the current expansion in original units rather than with trough standing at 100.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both the current and past expansions. This is the common time scale along which the expansions are compared.

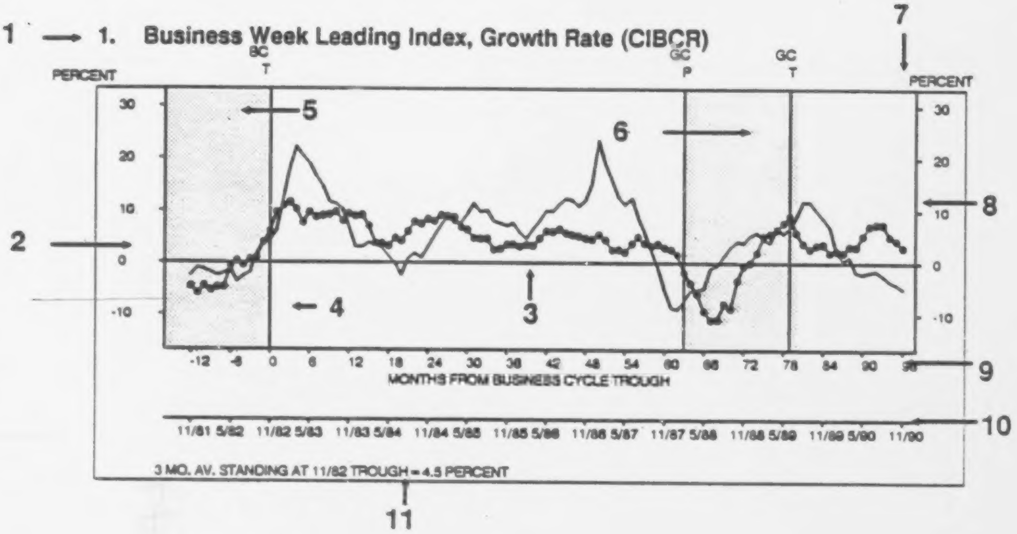
10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the level at which the current expansion began, and is calculated as the 3-month average centered on the trough month.

ooooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———————— SOLID LINE indicates the current expansion, which began in November 1982, or Q4, 1982.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed growth rate, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for both current and past expansions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansions, which are aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the trough of the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT), represents the 1966-67 growth recession.

7 UNITS for both scales in percent refer to growth rates for both current and past expansions.

8 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for both current and past expansions.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both current and past expansions. This is the common time scale along which the expansions are compared.

10 ACTUAL DATES refer only to the current expansion.

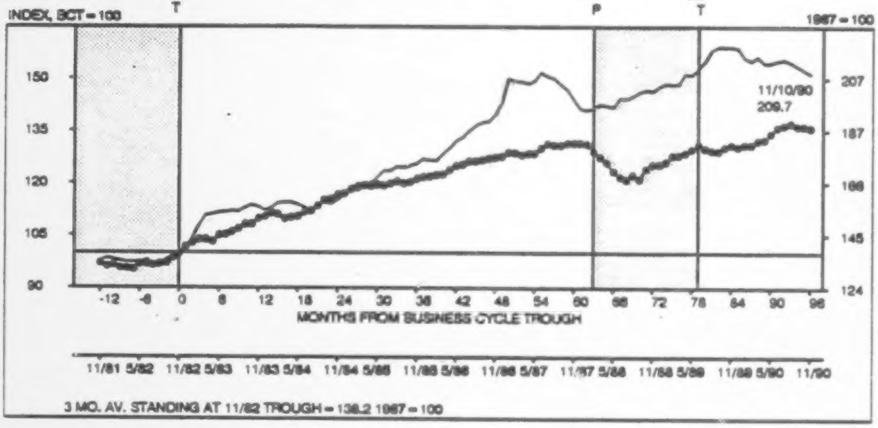
11 STANDING AT THE TROUGH is the growth rate at the time the current expansion began, and is calculated as the 3- month average centered on the trough month.

eeeeeeeeeeeee LINE WITH CIRCLES indicates 1961–69 expansion.

——————— SOLID LINE indicates the current expansion, which began in November 1982, or Q4 1982.

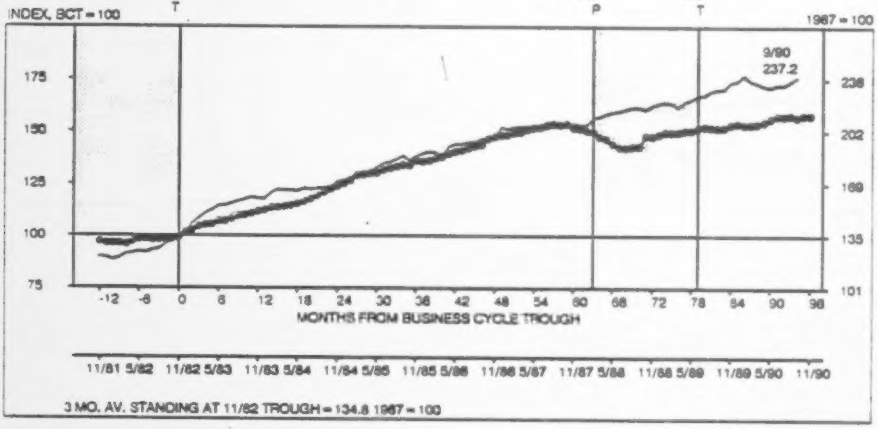
Composite Indexes

1. Business Week Leading Index (CIBCR)

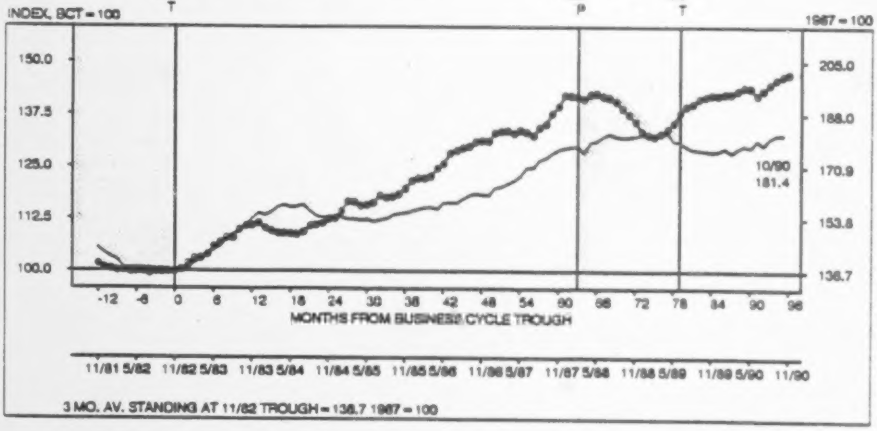


The Business Week Leading Index continues its decline, which began a year back.

2. Long-Leading Index (CIBCR)

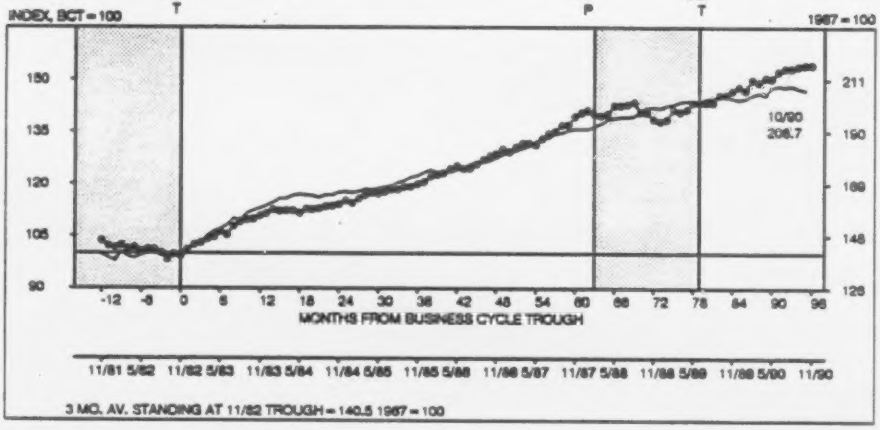


3. N.A.P.M. Leading Index (CIBCR)

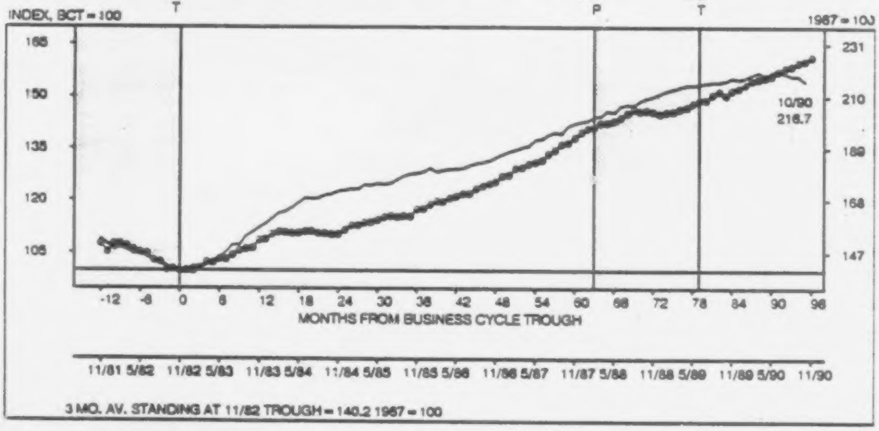


The long-leading and NAPM leading indexes look more favorable.

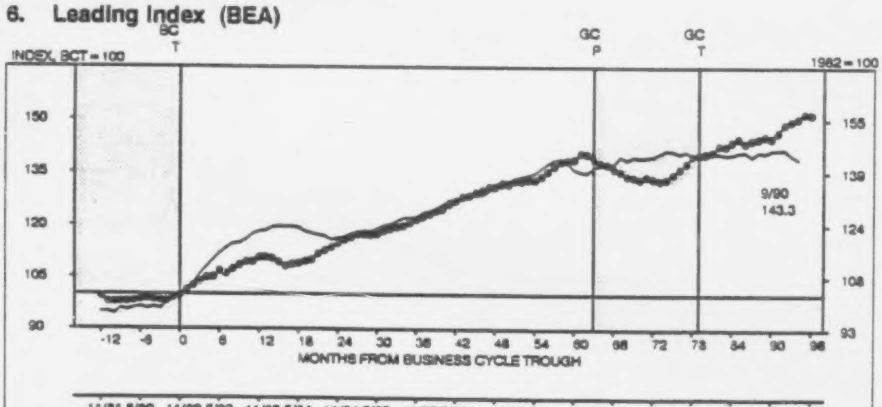
4. Leading Employment Index (CIBCR)



5. Coincident Employment Index (CIBCR)

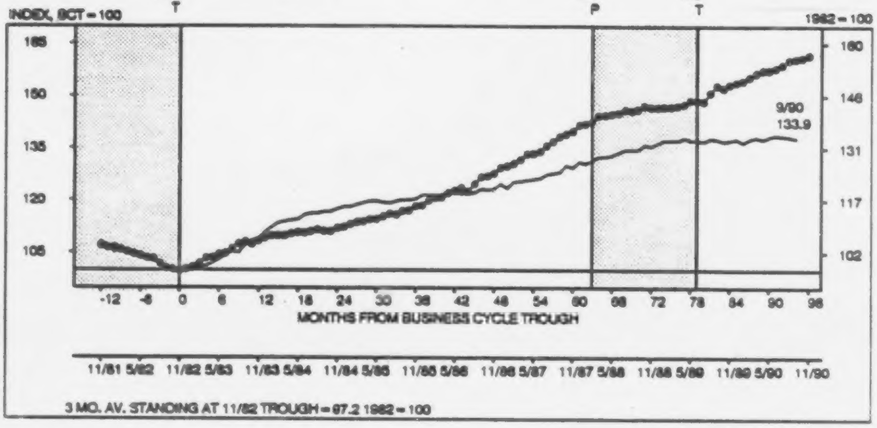


6. Leading Index (BEA)



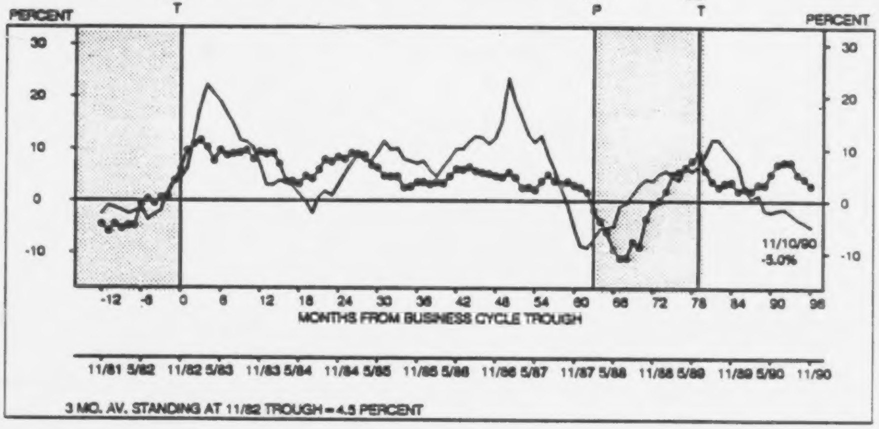
This index dropped further, to 141.6 in October.

7. Coincident Index (BEA)

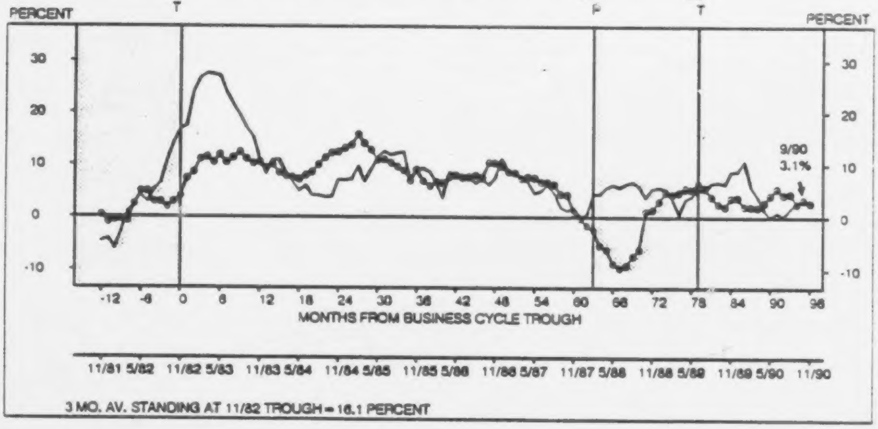


Composite Indexes

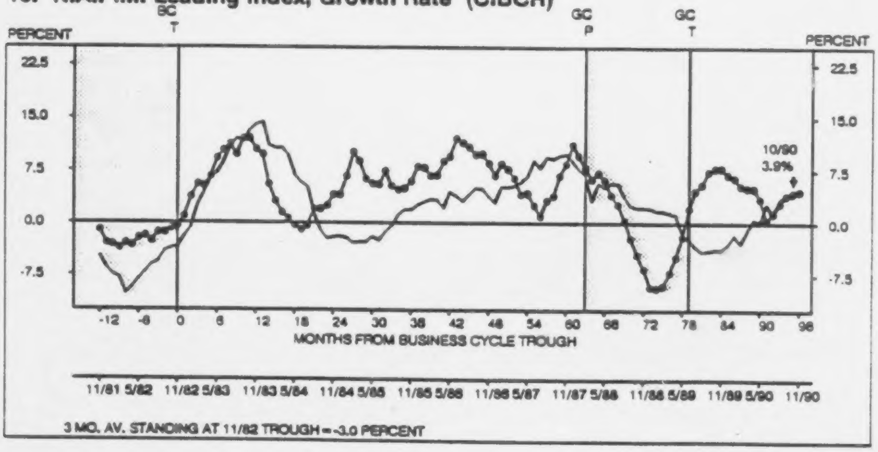
8. Business Week Leading Index, Growth Rate (CIBCR)



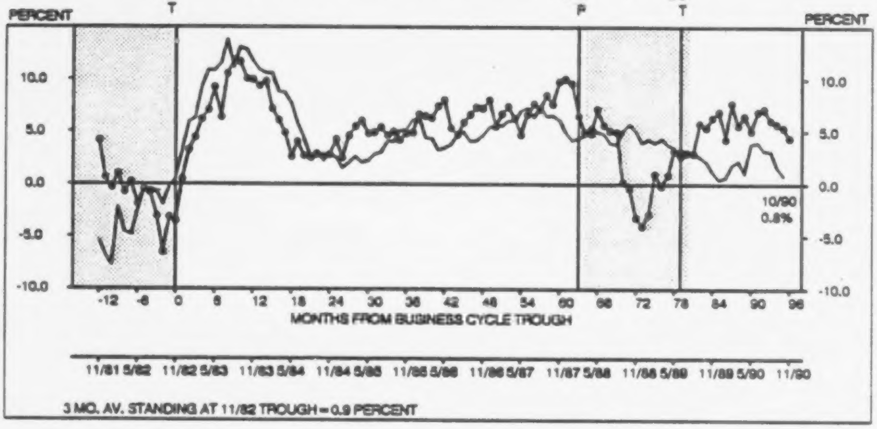
9. Long-Leading Index, Growth Rate (CIBCR)



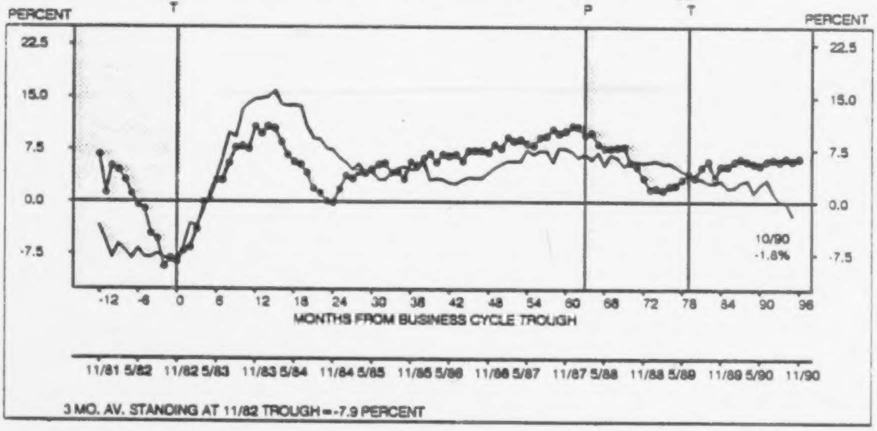
10. N.A.P.M. Leading Index, Growth Rate (CIBCR)



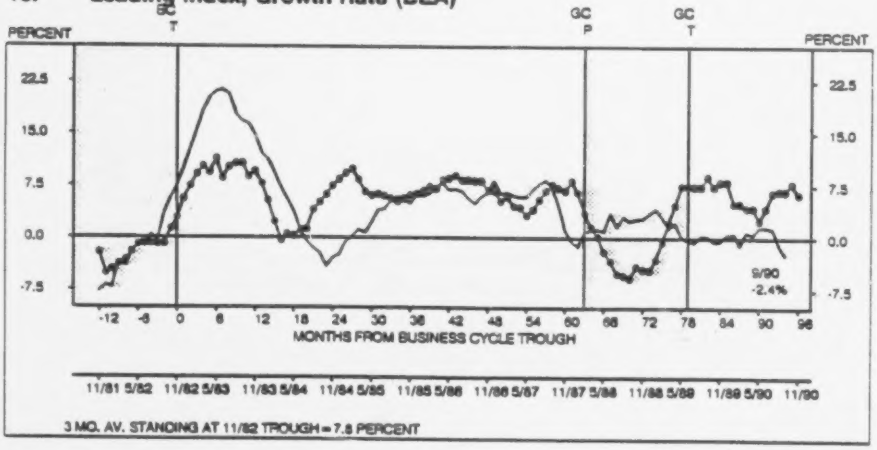
11. Leading Employment Index, Growth Rate (CIBCR)



12. Coincident Employment Index, Growth Rate (CIBCR)

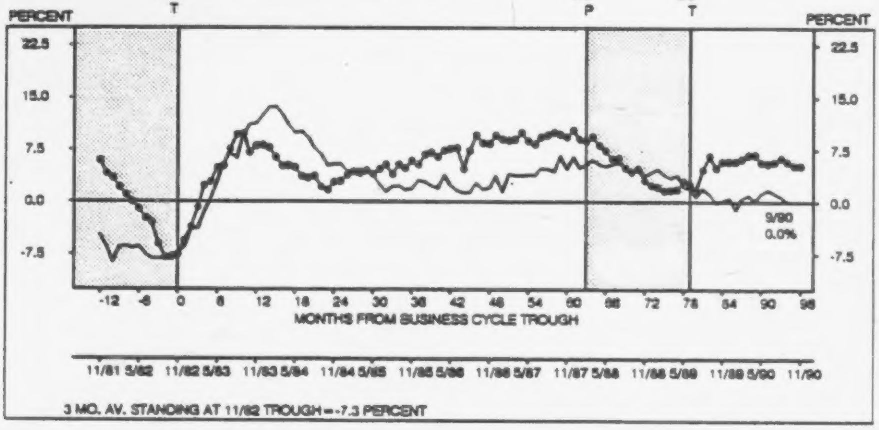


13. Leading Index, Growth Rate (BEA)



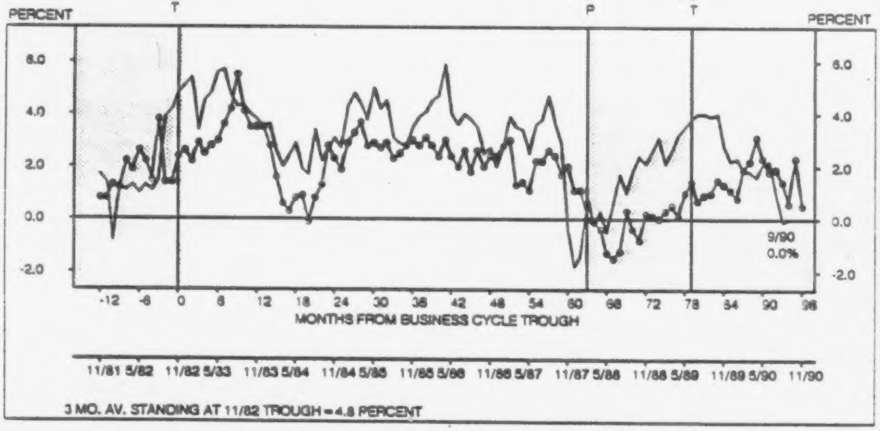
The October leading index growth rate is down to -4.3% ...

14. Coincident Index, Growth Rate (BEA)



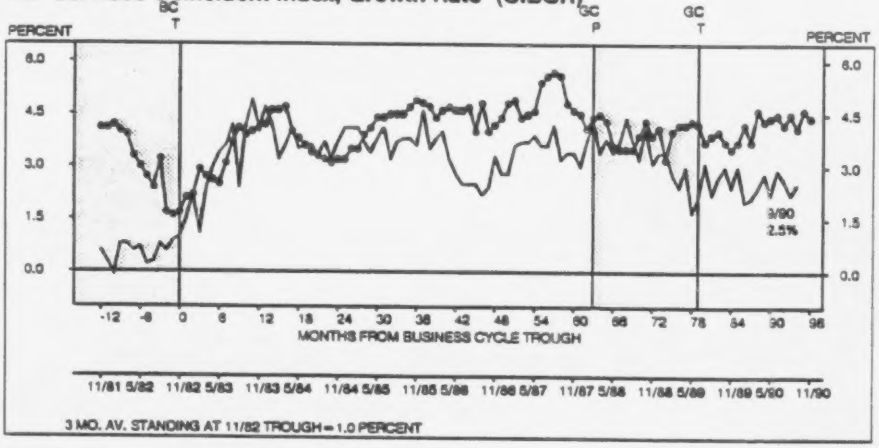
... while the coincident index growth rate is down to -2.6% in October, thus triggering the final P3 signal for a recession.

15. Services Leading Index, Growth Rate (CIBCR)



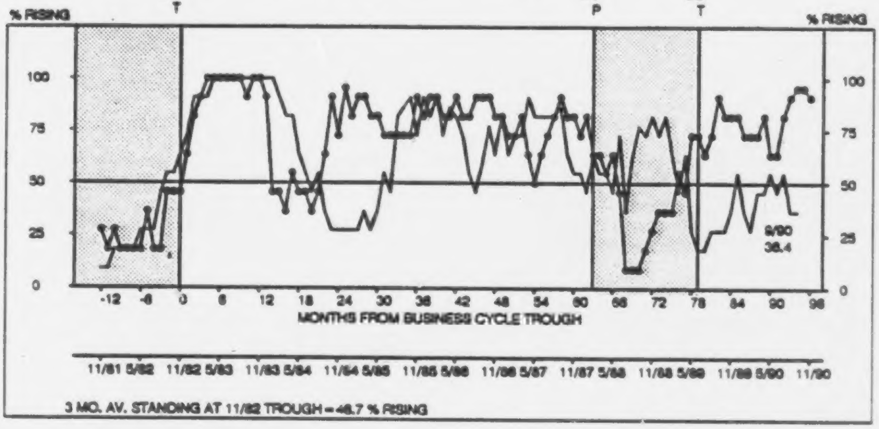
The Services Leading Index growth rate dropped to -1.3% in October ...

16. Services Coincident Index, Growth Rate (CIBCR)



... while the Service Coincident Index growth rate dropped to 0.1%, the lowest since the last recession.

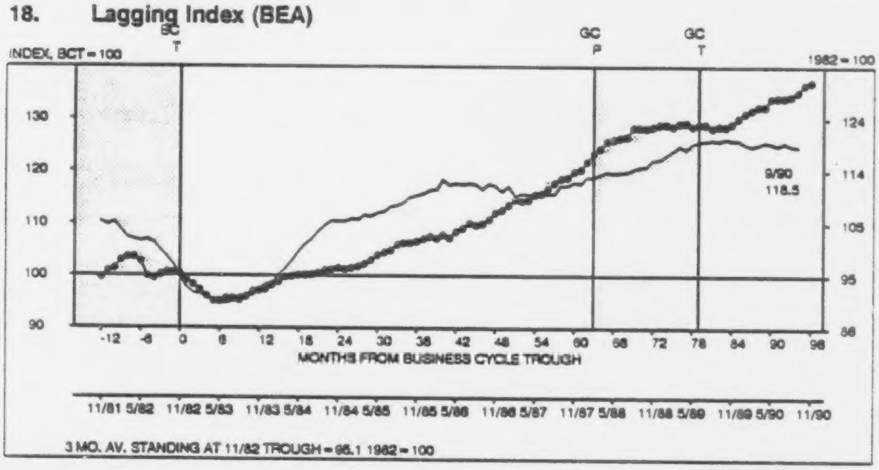
17. Diffusion Index of Leading Indicators (CIBCR)



3 MO. AV. STANDING AT 11/82 TROUGH = 46.7 % RISING

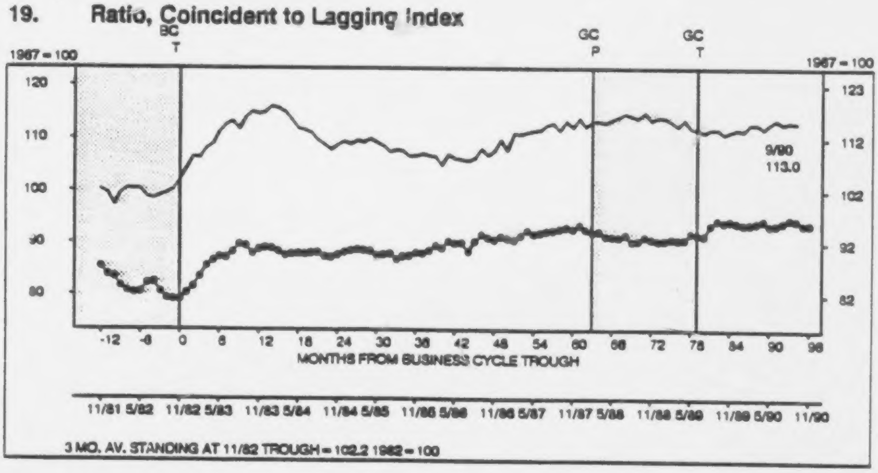
Declines in the leaders are widespread.

18. Lagging Index (BEA)



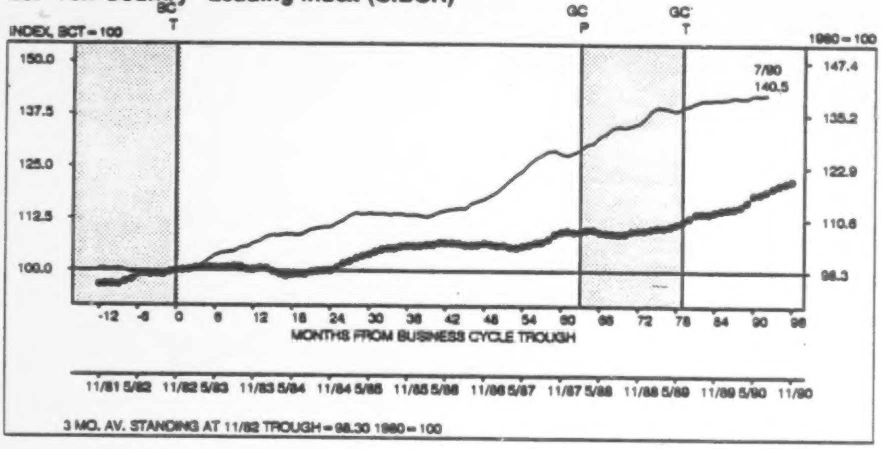
3 MO. AV. STANDING AT 11/82 TROUGH = 96.1 1982 = 100

19. Ratio, Coincident to Lagging Index



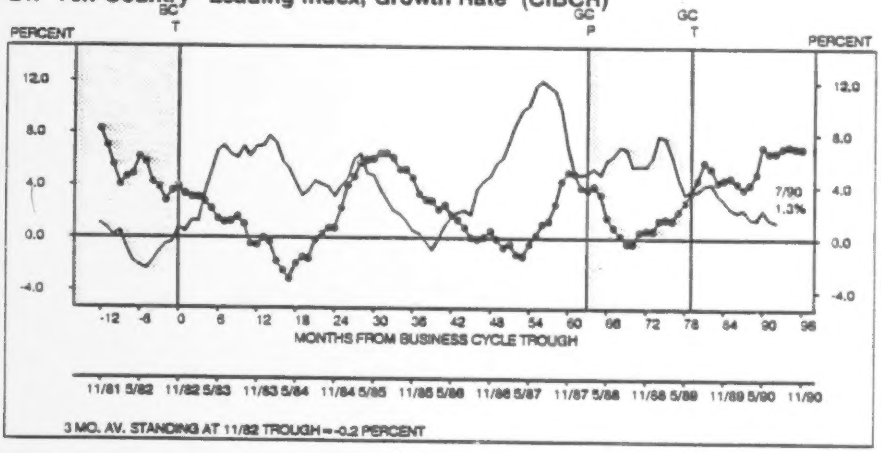
3 MO. AV. STANDING AT 11/82 TROUGH = 102.2 1982 = 100

20. Ten-Country* Leading Index (CIBCR)



In August this index dropped to 139.1, and its growth rate fell to -0.7%.

21. Ten-Country* Leading Index, Growth Rate (CIBCR)



The continued slide in the International Leading Indicators, with slowing growth rates of the Leading Indexes for almost all the countries, threatens a global recession ahead.

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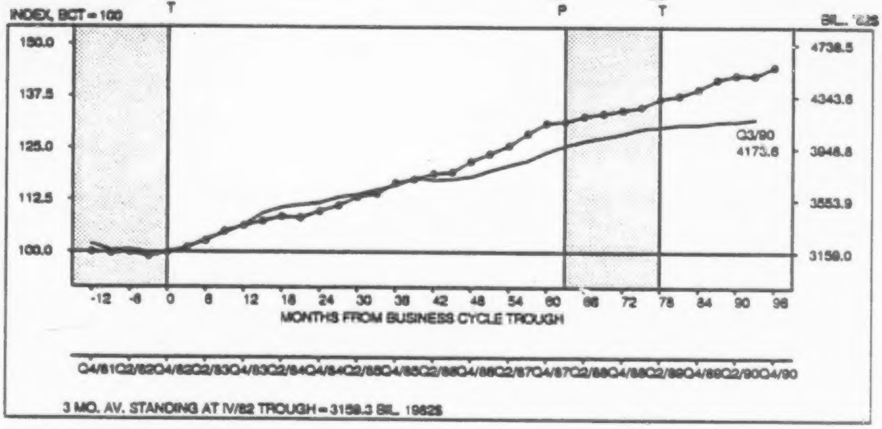
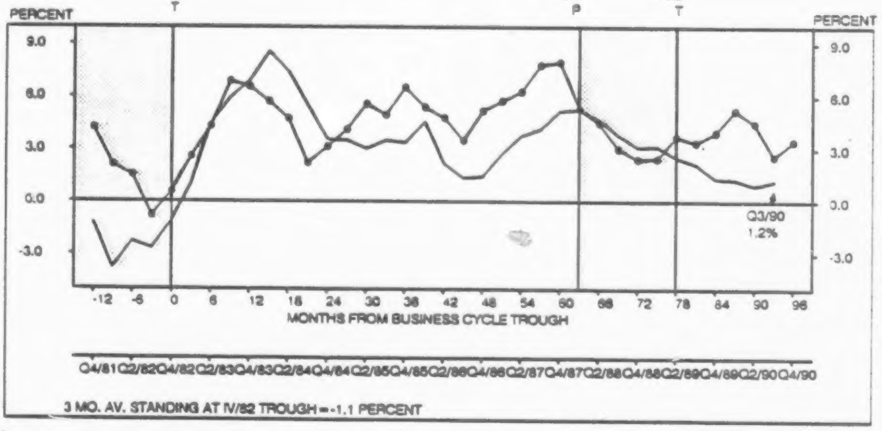
*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

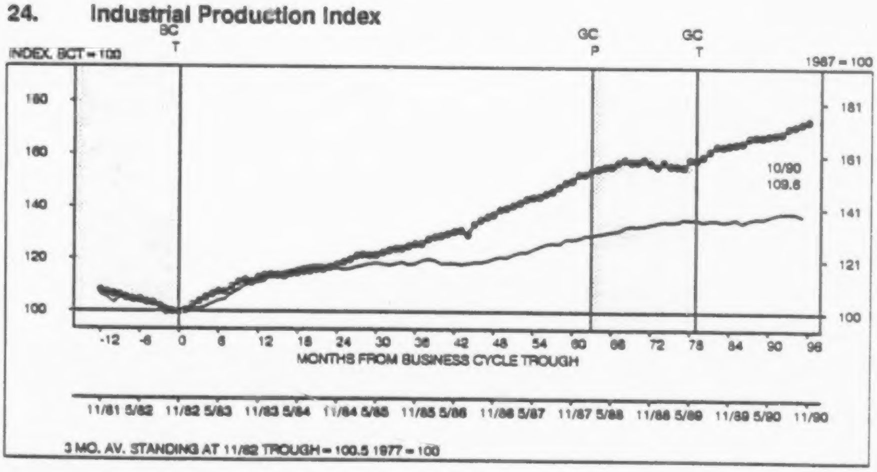
22. Real GNP



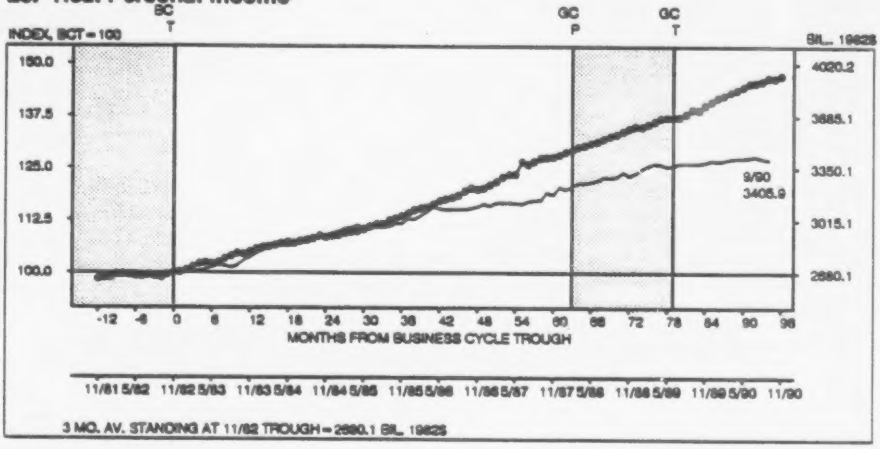
23. Real GNP, Growth Rate



24. Industrial Production Index

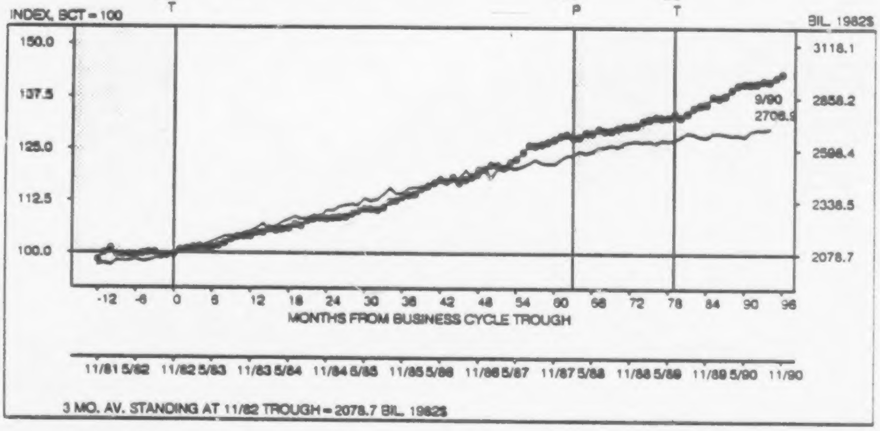


25. Real Personal Income



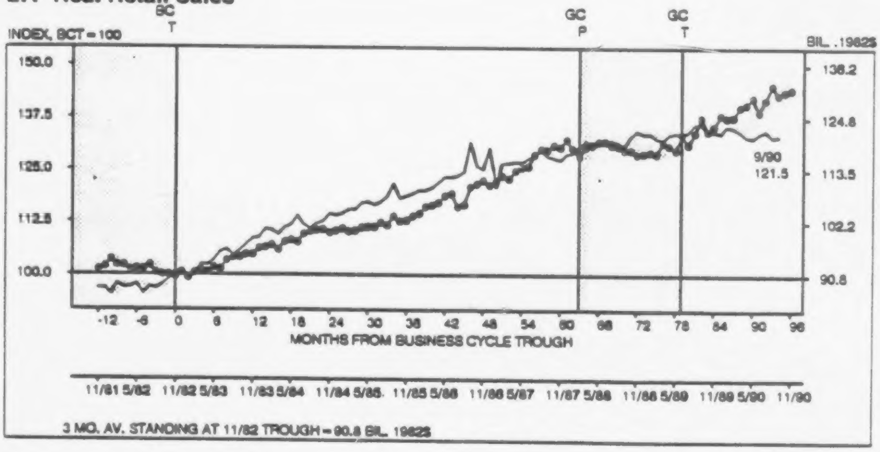
3 MO. AV. STANDING AT 11/82 TROUGH = 2680.1 BIL. 1982$

26. Real Consumer Expenditures



3 MO. AV. STANDING AT 11/82 TROUGH = 2078.7 BIL. 1982$

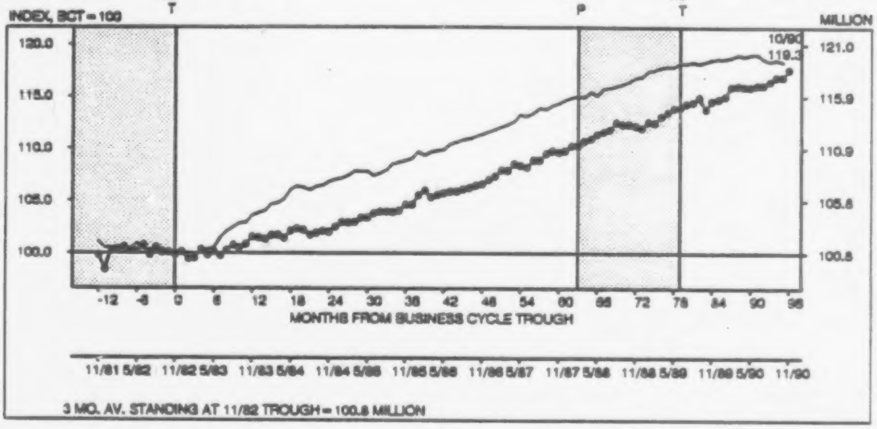
27. Real Retail Sales



3 MO. AV. STANDING AT 11/82 TROUGH = 90.8 BIL. 1982$

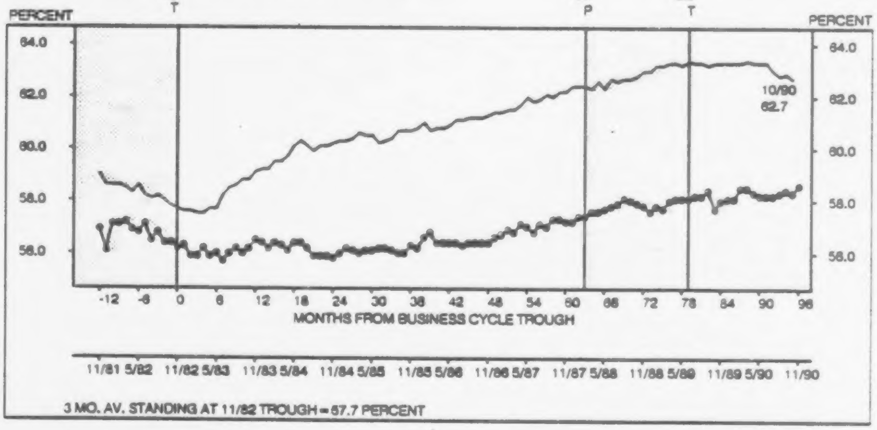
Employment and Unemployment

28. Total Employment

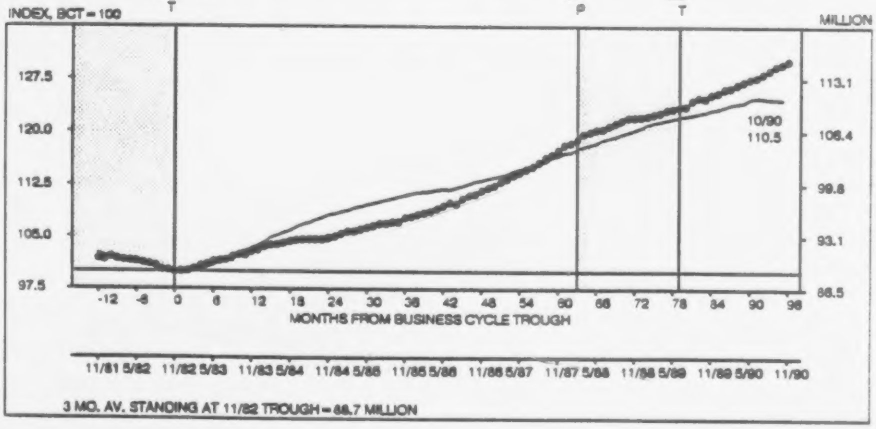


The downturn in employment came before the Persian Gulf crisis in August.

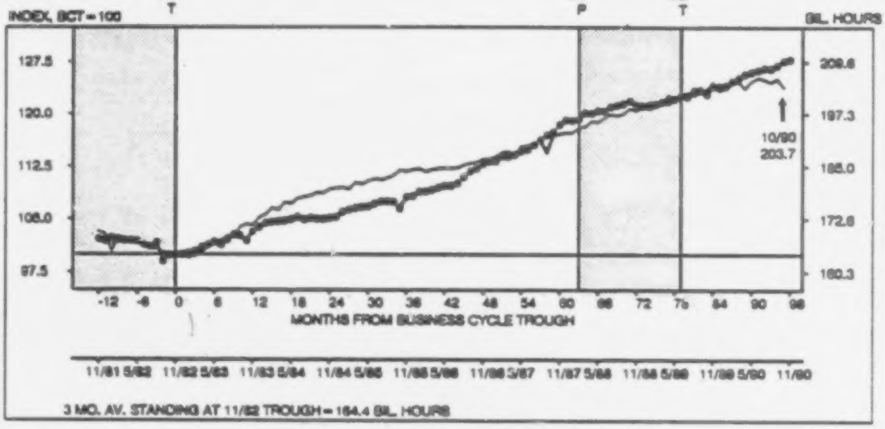
29. Employment/Population Ratio



30. Nonfarm Employment

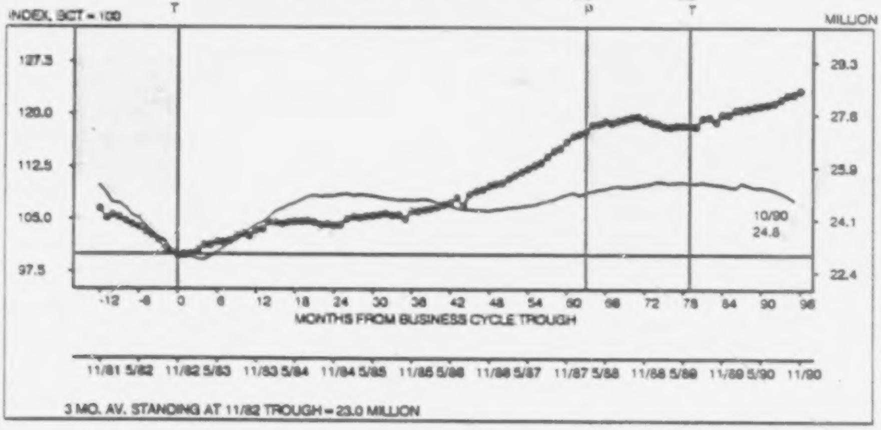


31. Nonfarm Employee-Hours



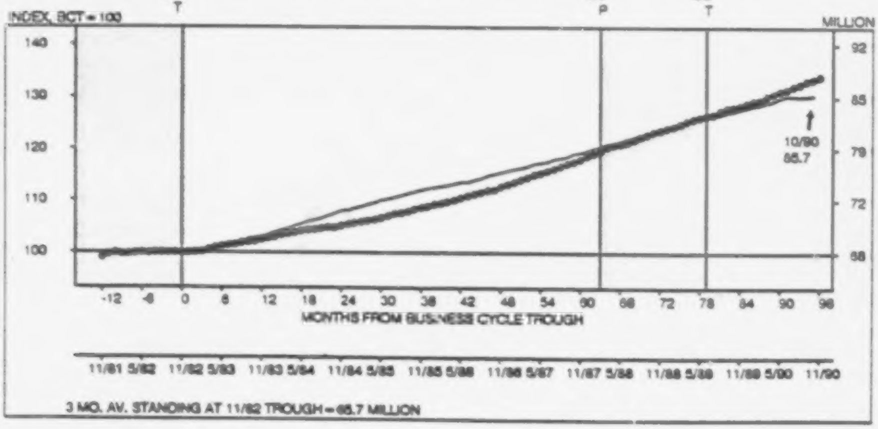
Nonfarm Employee-hours are dropping ...

32. Employment in Goods-Producing Industries



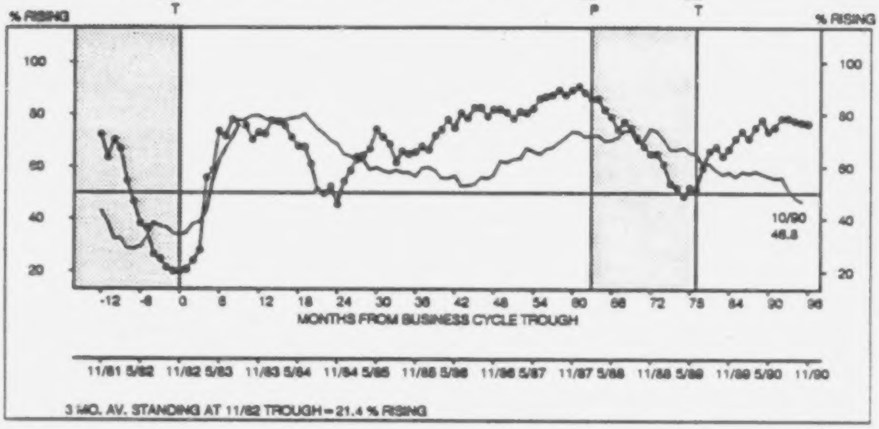
... and the long decline continues in Employment in Goods-Producing industries ...

33. Employment in Service-Producing Industries



... and for the first time since the last recession, Employment in Service-Producing Industries has stopped growing.

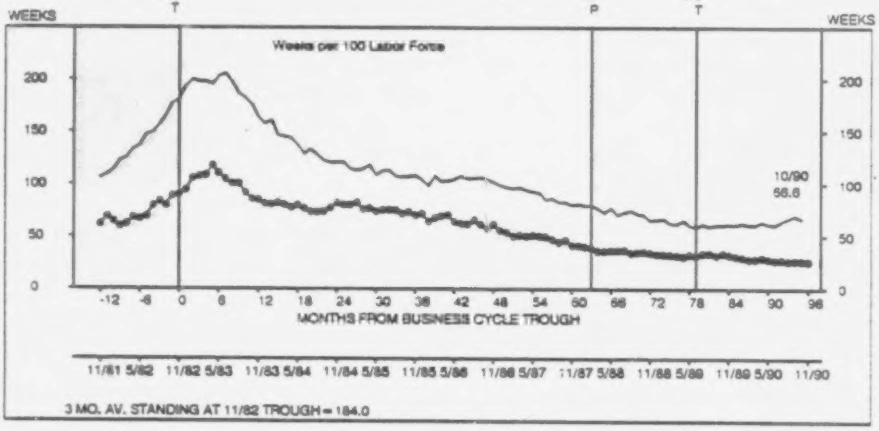
34. Employment Diffusion Index, 186 Industries



3 MO. AV. STANDING AT 11/82 TROUGH = 21.4 % RISING

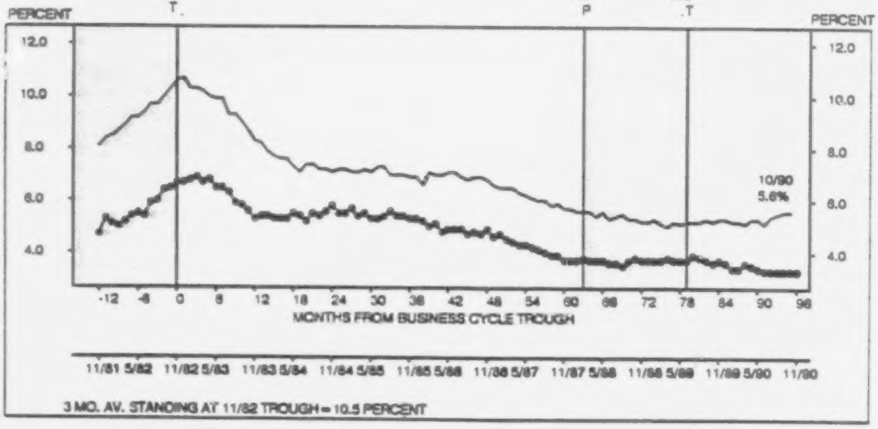
The Employment Diffusion Index has dropped below 50% for the first time since the last recession.

35. Unemployment Severity Index (CIBCR)



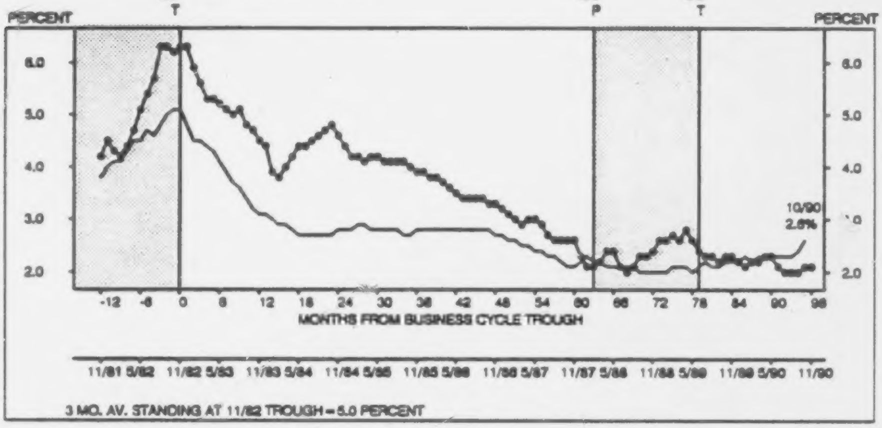
3 MO. AV. STANDING AT 11/82 TROUGH = 184.0

36. Unemployment Rate, Total

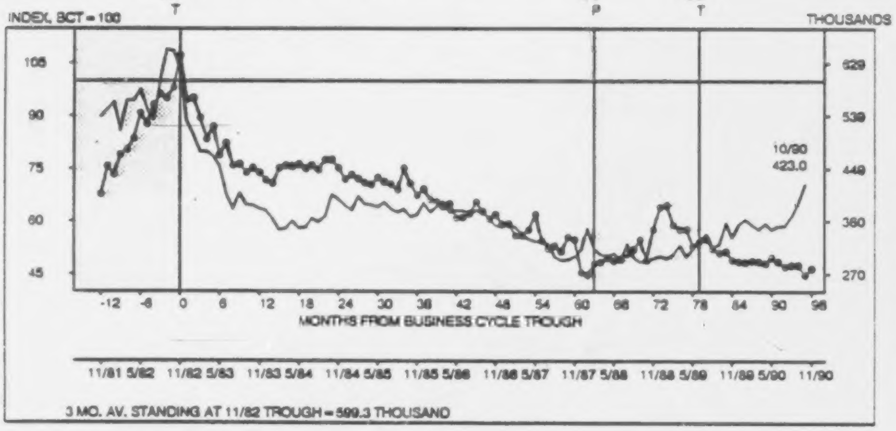


3 MO. AV. STANDING AT 11/82 TROUGH = 10.5 PERCENT

37. Unemployment Rate, Insured

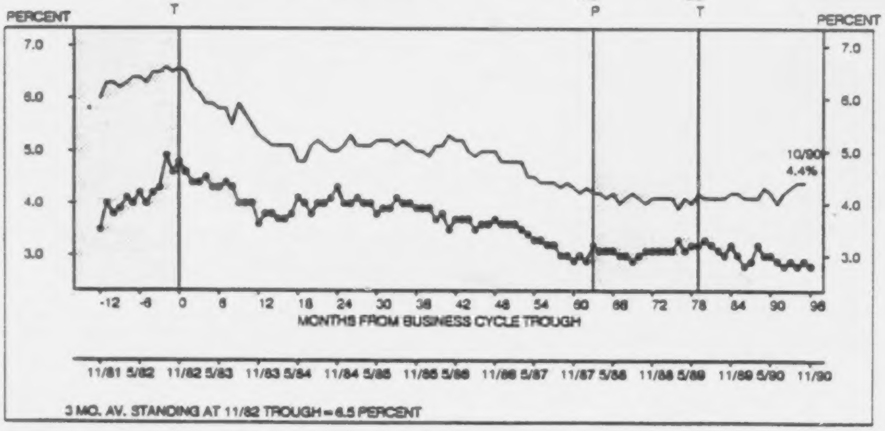


38. Initial Claims, Unemployment Insurance

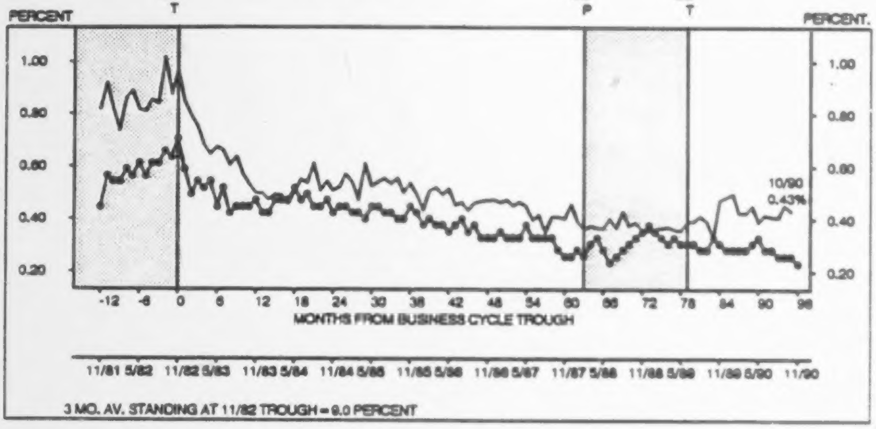


Initial Claims for Unemployment Insurance are shooting up, an ominous sign.

39. Short-Duration Unemployment Rate

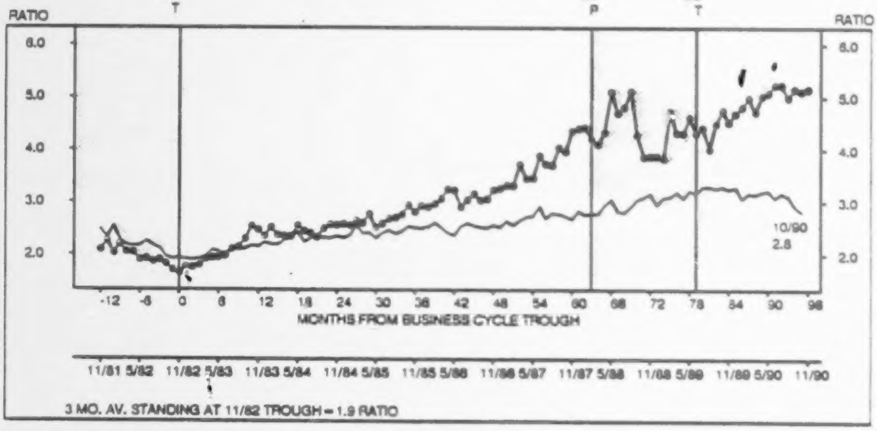


40. Layoff Rate (Under 5 Weeks)



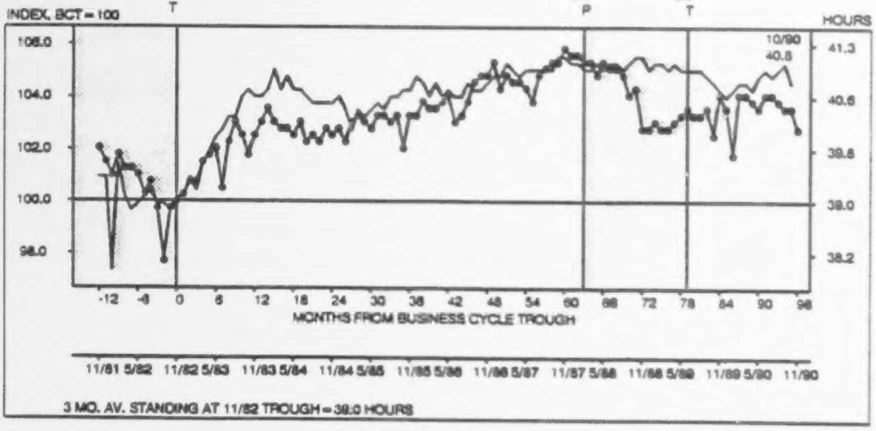
3 MO. AV. STANDING AT 11/82 TROUGH = 9.0 PERCENT

41. Voluntary to Involuntary Part-Time Employment Ratio



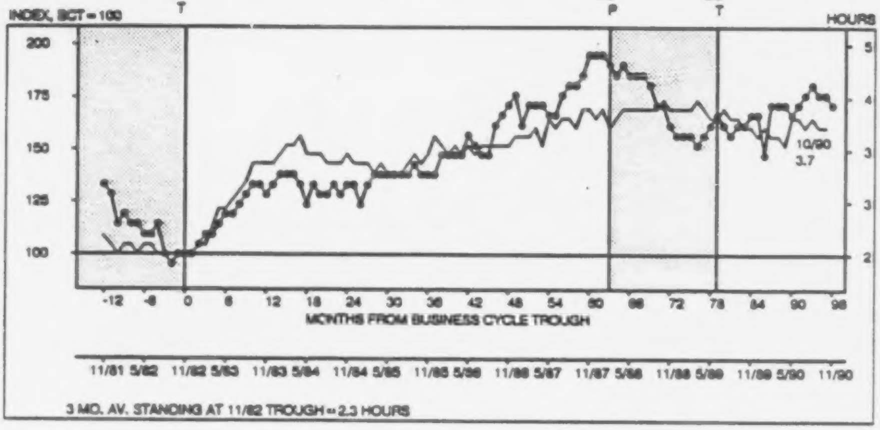
3 MO. AV. STANDING AT 11/82 TROUGH = 1.9 RATIO

42. Average Workweek, Manufacturing

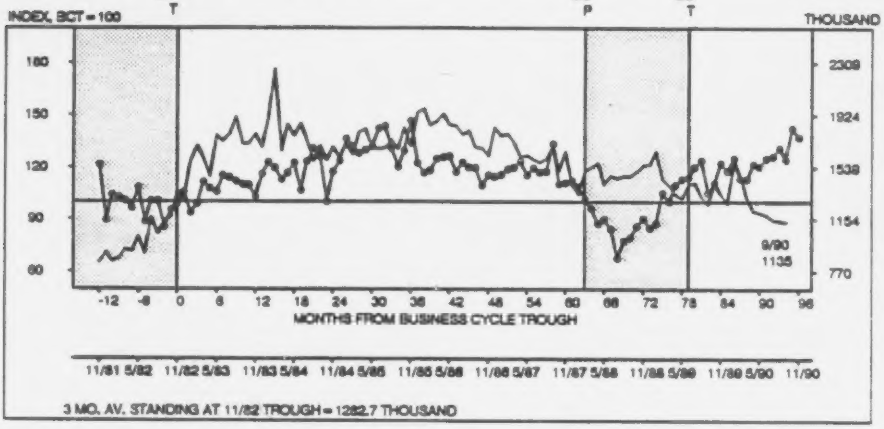


3 MO. AV. STANDING AT 11/82 TROUGH = 39.0 HOURS

43. Overtime Hours, Manufacturing

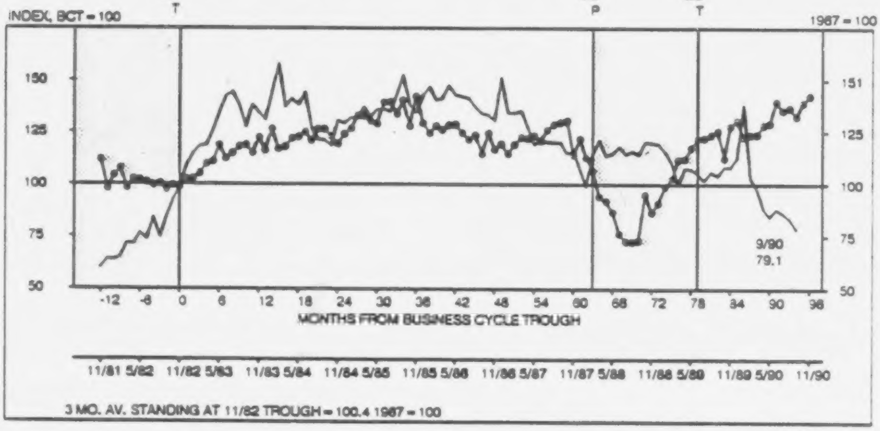


44. New Private Housing Starts



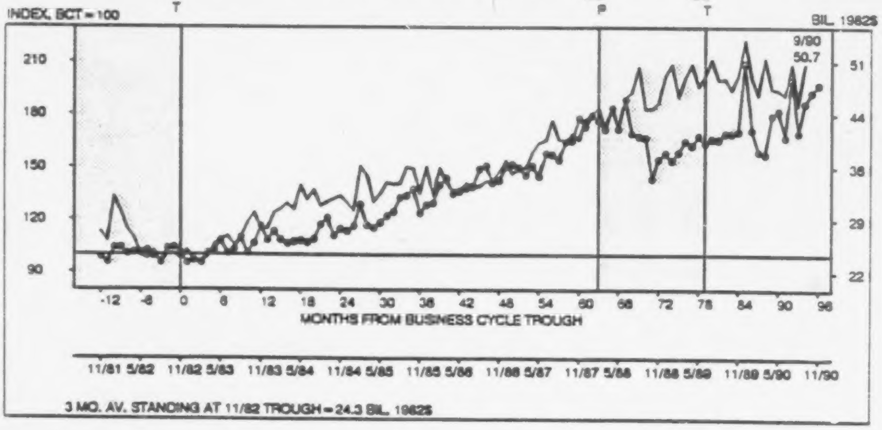
Housing Starts have dropped to recessionary levels ...

45. New Private Housing Permits

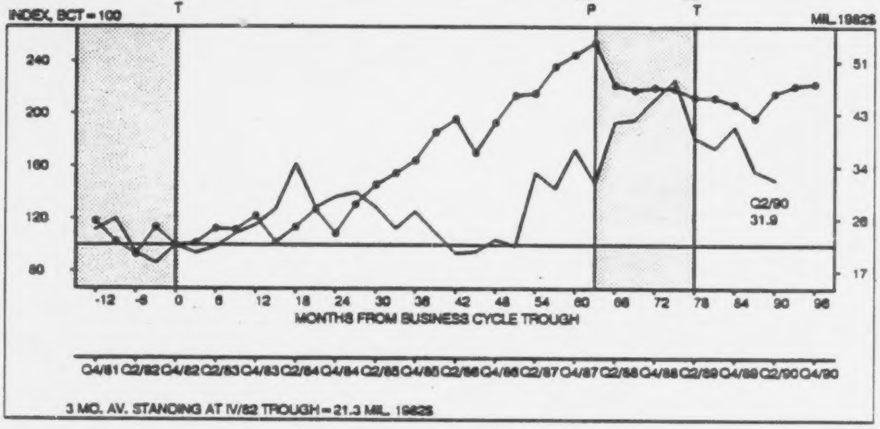


... as have building permits.

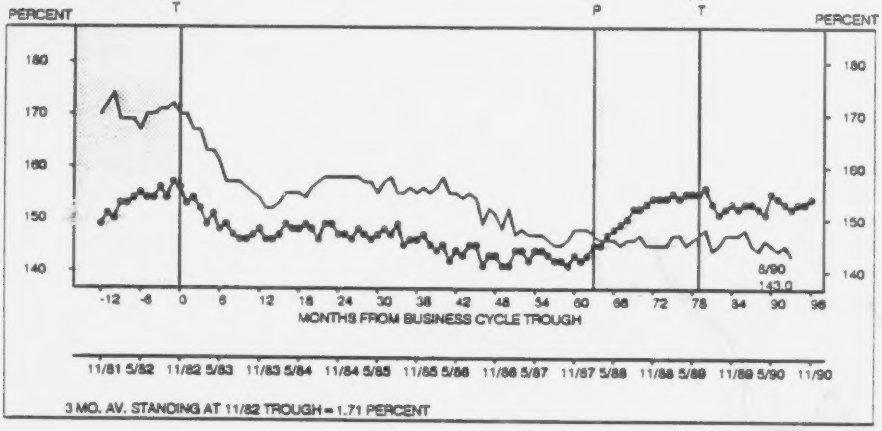
46. Contracts and Orders for Plant and Equipment



47. New Capital Appropriations, Manufacturing

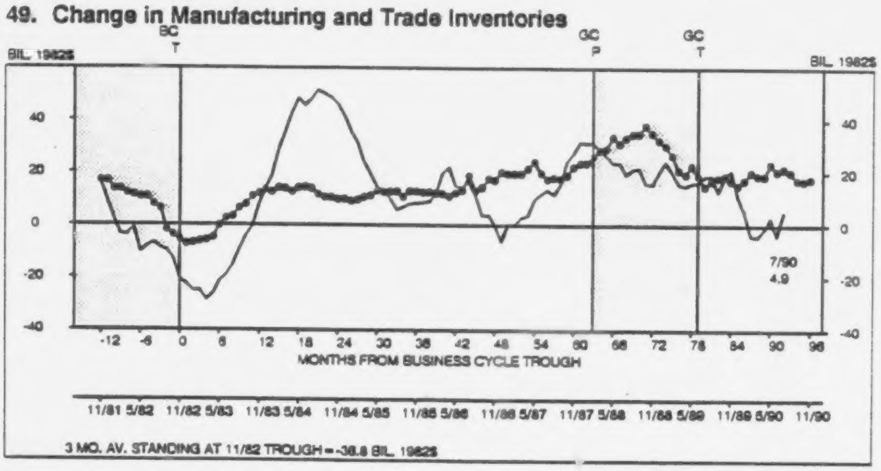


48. Inventory/Sales Ratio, Manufacturing and Trade

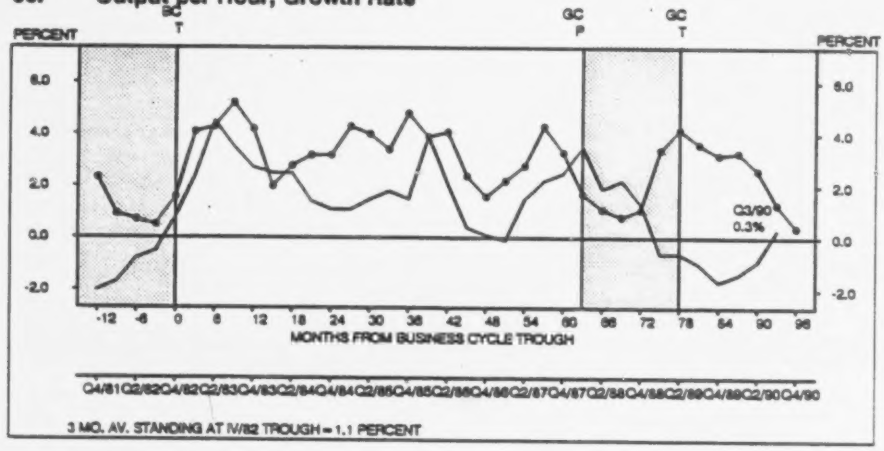


A recession may have started, but this inventory /sales ratio has not been this low since the middle of the 1961-69 expansion, nearly a quarter of a century back!

49. Change in Manufacturing and Trade Inventories

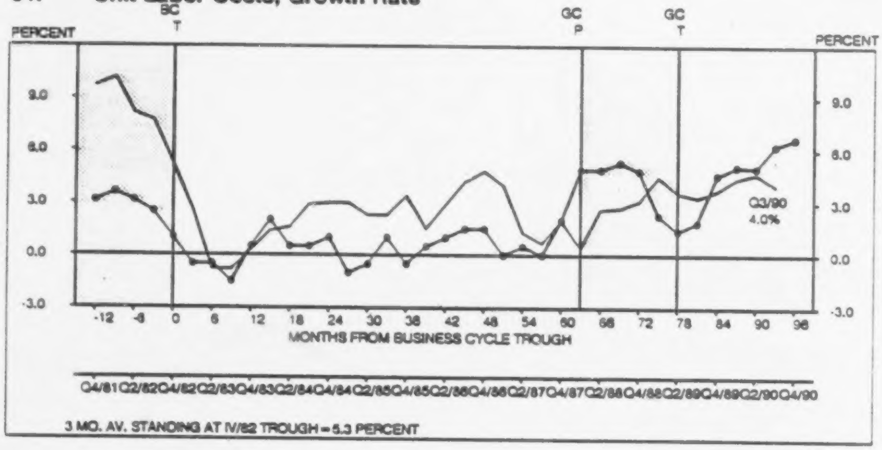


50. Output per Hour, Growth Rate



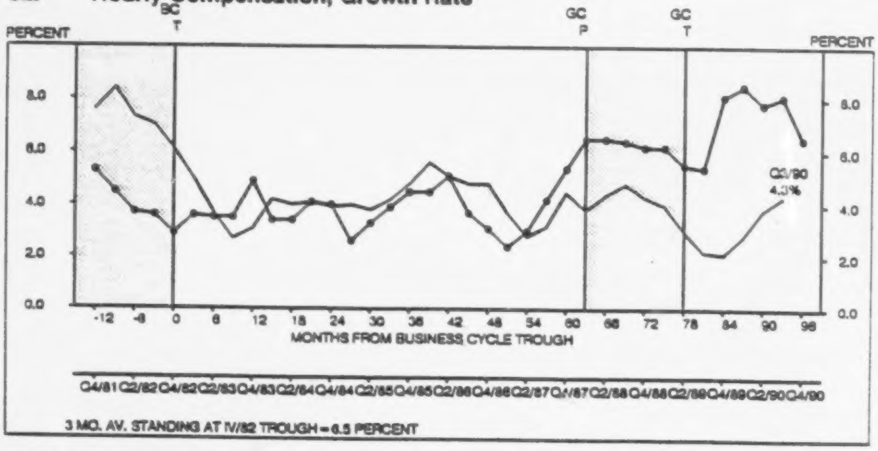
3 MO. AV. STANDING AT IV/82 TROUGH = 1.1 PERCENT

51. Unit Labor Costs, Growth Rate



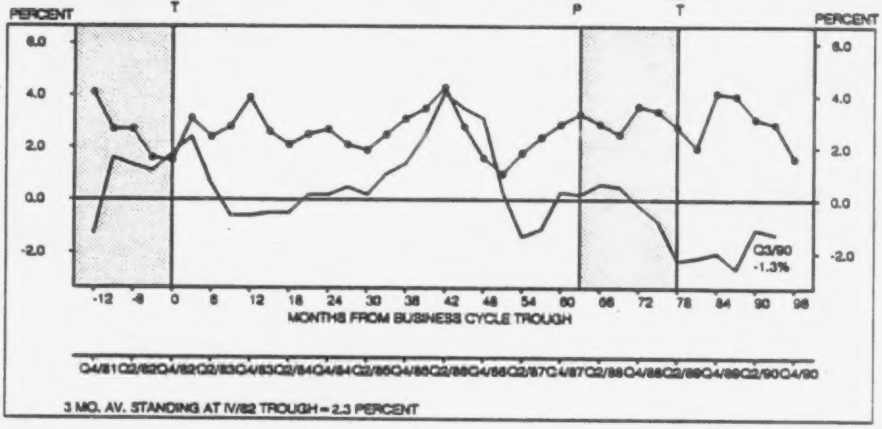
3 MO. AV. STANDING AT IV/82 TROUGH = 5.3 PERCENT

52. Hourly Compensation, Growth Rate

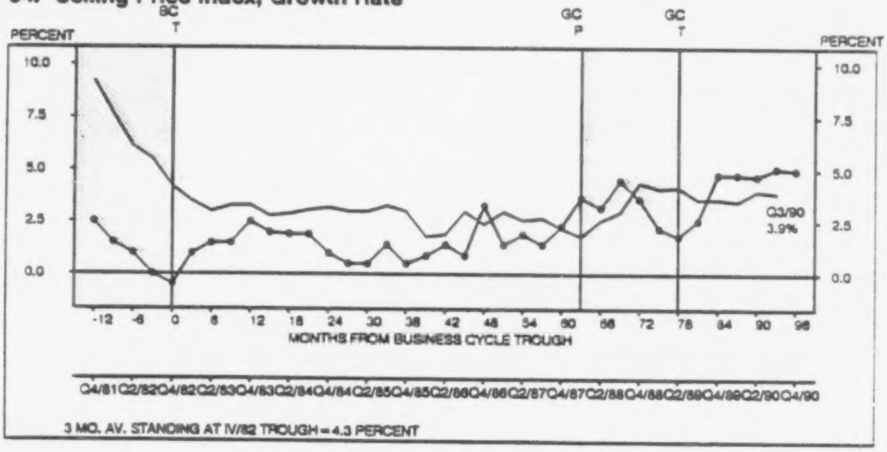


3 MO. AV. STANDING AT IV/82 TROUGH = 6.5 PERCENT

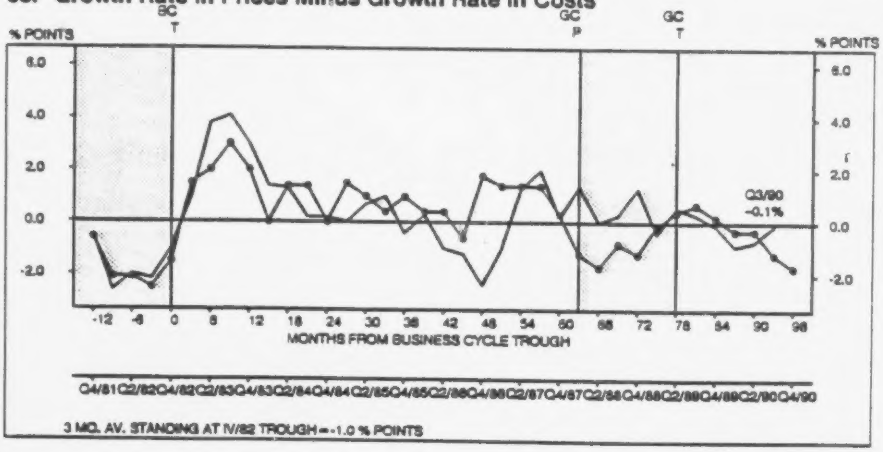
53. Real Hourly Compensation, Growth Rate



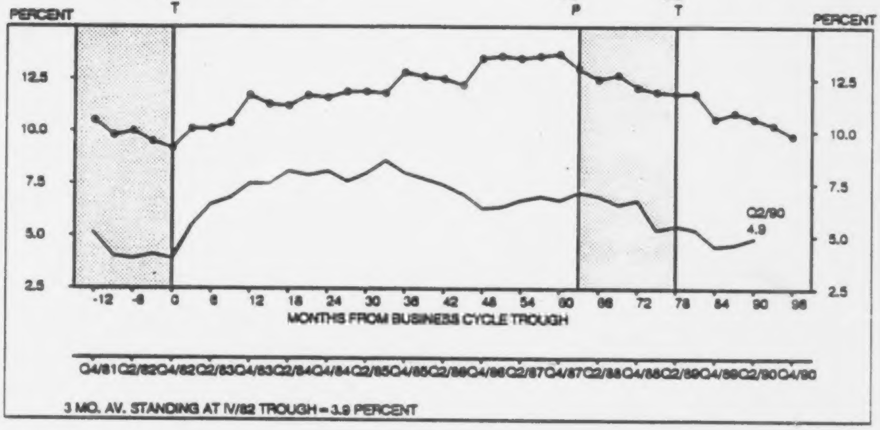
54. Selling Price Index, Growth Rate



55. Growth Rate in Prices Minus Growth Rate in Costs

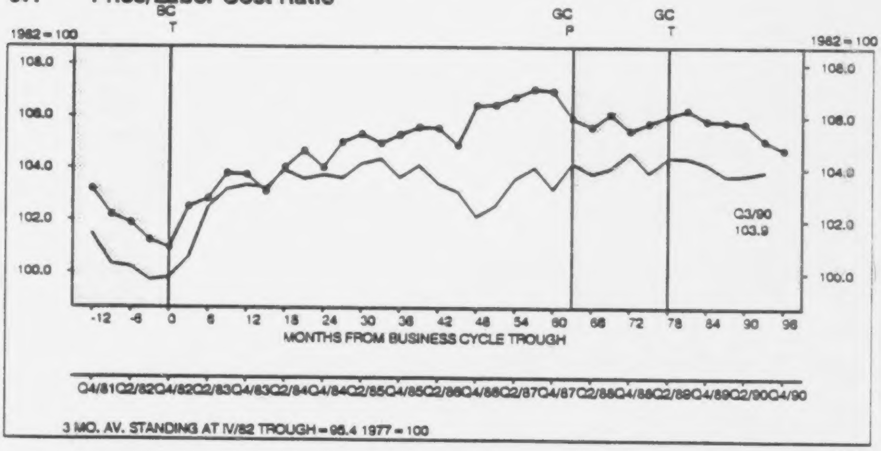


56. Corporate Profit Margin



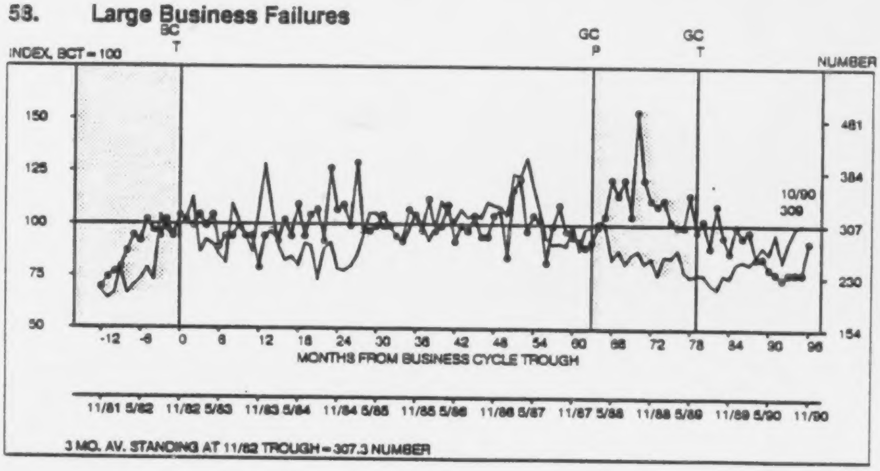
3 MO. AV. STANDING AT IV/82 TROUGH = 3.9 PERCENT

57. Price/Labor Cost Ratio



3 MO. AV. STANDING AT IV/82 TROUGH = 95.4 1977 = 100

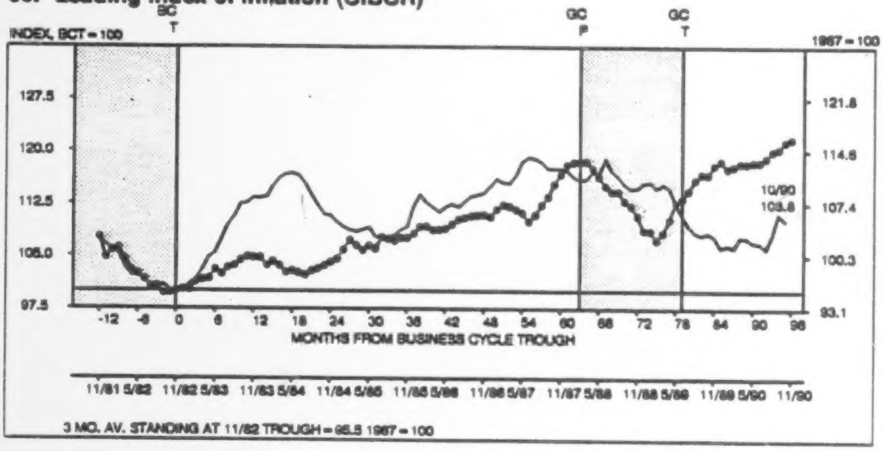
58. Large Business Failures



3 MO. AV. STANDING AT 11/82 TROUGH = 307.3 NUMBER

Business Failures were in the low two hundreds last year, but they have been rising continuously since then, and are now in the low three hundreds.

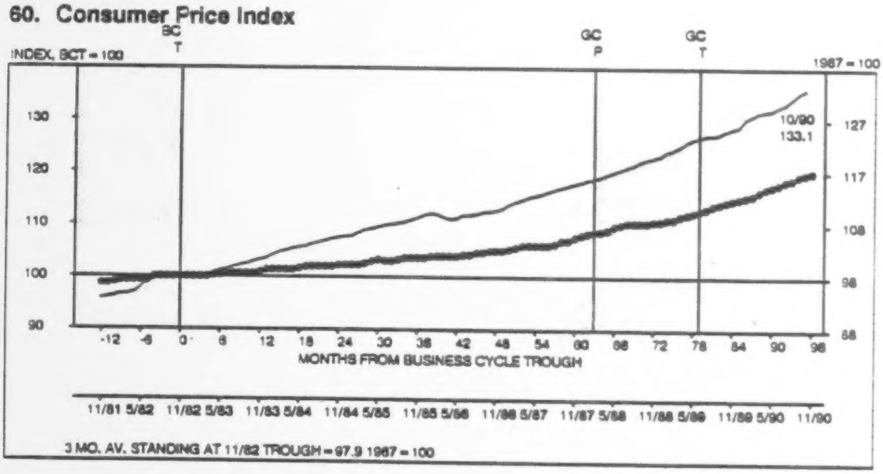
59. Leading Index of Inflation (CIBCR)



3 MO. AV. STANDING AT 11/82 TROUGH = 95.5 1967 = 100

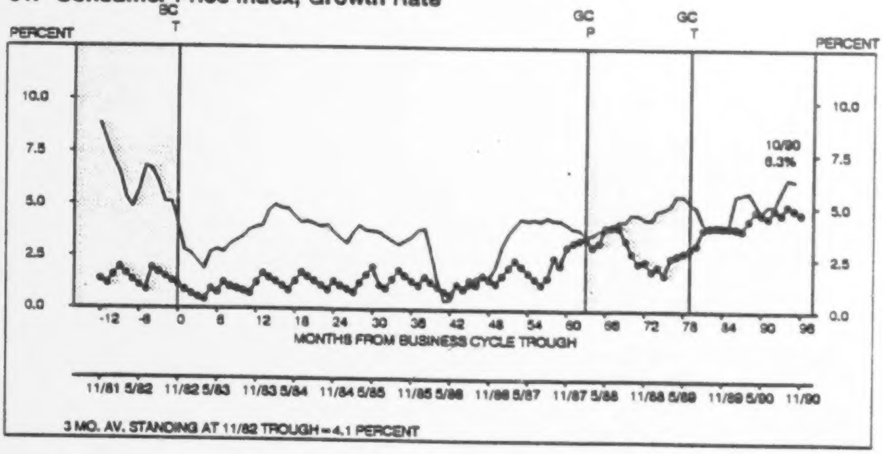
After shooting up to 109.7 in September, the Leading Index of Inflation has eased a bit, and is likely to ease further as the recession takes hold.

60. Consumer Price Index



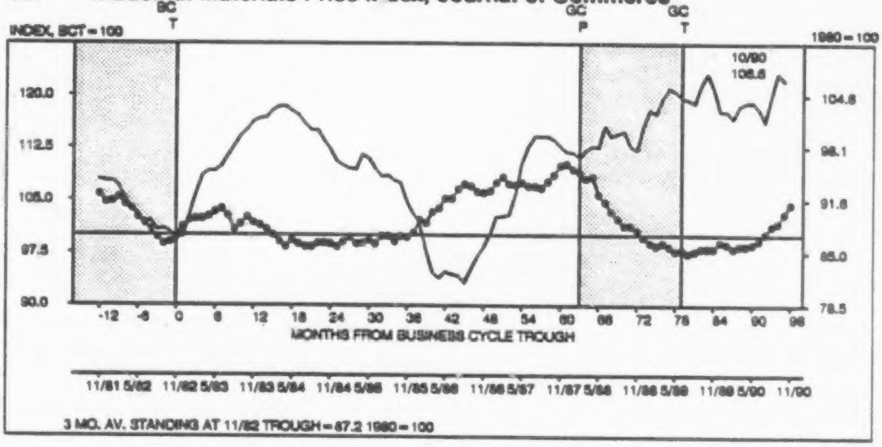
3 MO. AV. STANDING AT 11/82 TROUGH = 97.9 1967 = 100

61. Consumer Price Index, Growth Rate



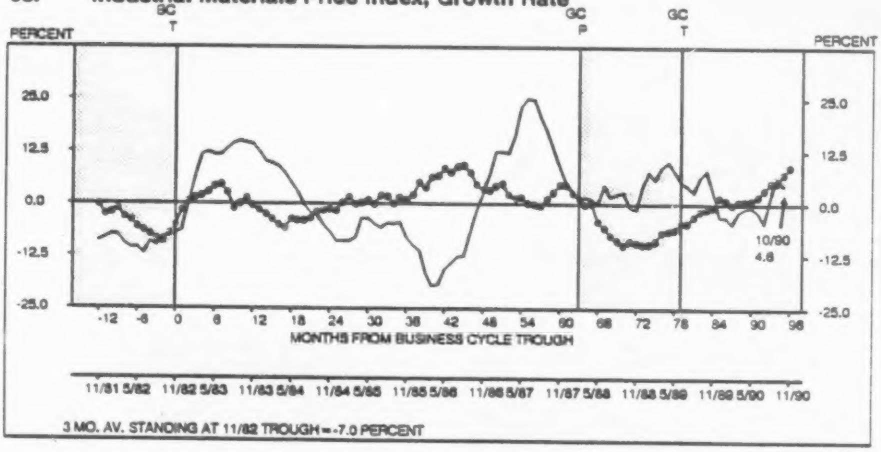
3 MO. AV. STANDING AT 11/82 TROUGH = 4.1 PERCENT

62. Industrial Materials Price Index, Journal of Commerce



3 MO. AV. STANDING AT 11/82 TROUGH=87.2 1980=100

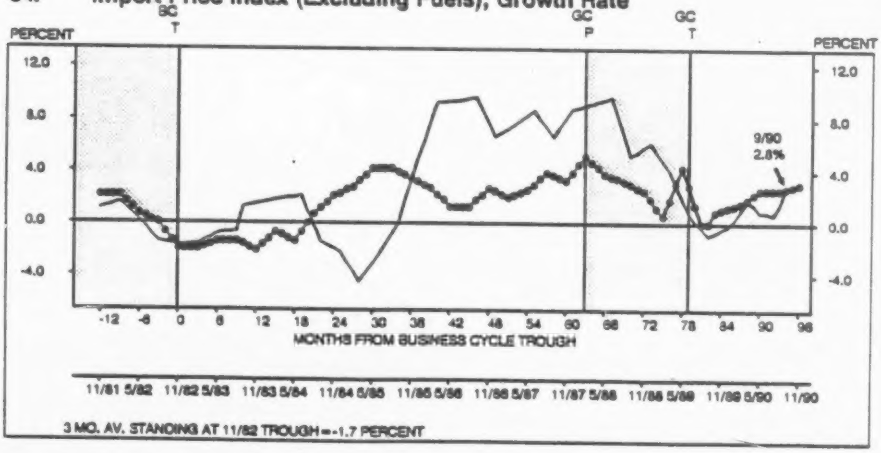
63. Industrial Materials Price Index, Growth Rate



3 MO. AV. STANDING AT 11/82 TROUGH=-7.0 PERCENT

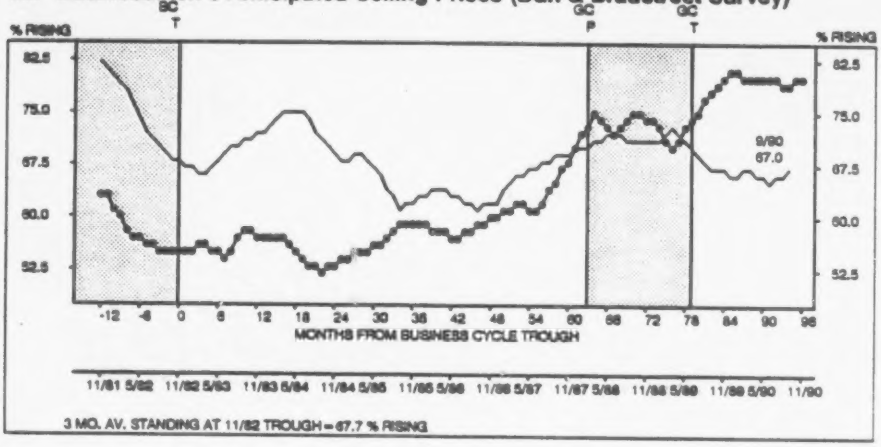
In November, materials prices began to decline.

64. Import Price Index (Excluding Fuels), Growth Rate



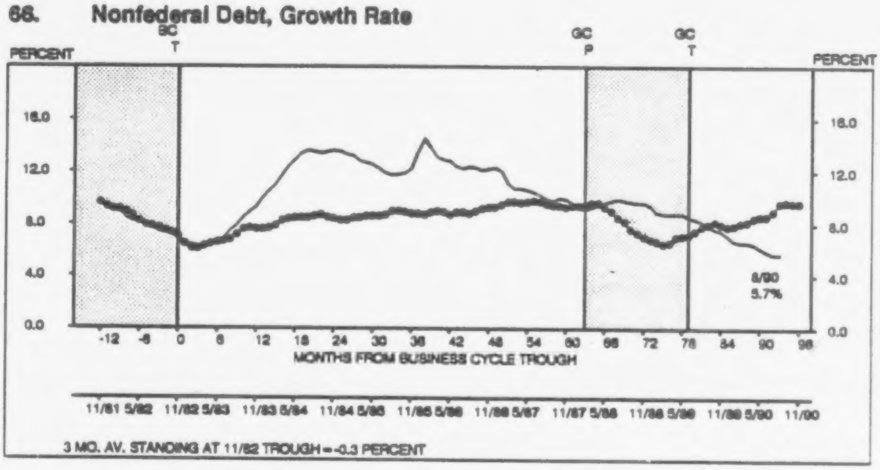
3 MO. AV. STANDING AT 11/82 TROUGH=-1.7 PERCENT

65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)



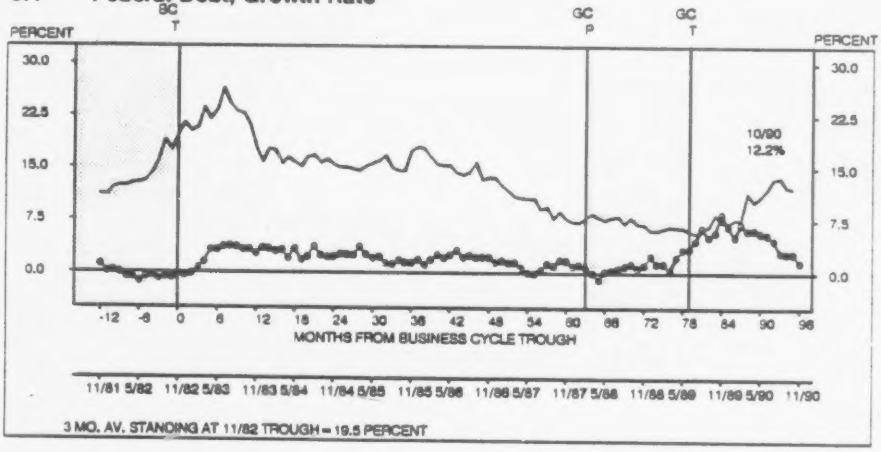
3 MO. AV. STANDING AT 11/82 TROUGH = 67.7 % RISING

66. Nonfederal Debt, Growth Rate



3 MO. AV. STANDING AT 11/82 TROUGH = -0.3 PERCENT

67. Federal Debt, Growth Rate

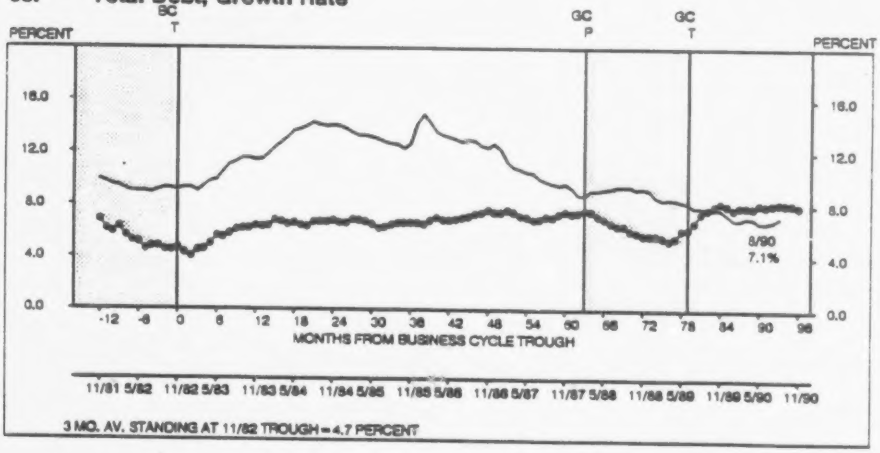


3 MO. AV. STANDING AT 11/82 TROUGH = 19.5 PERCENT

Since 1989 slower growth in private debt ...

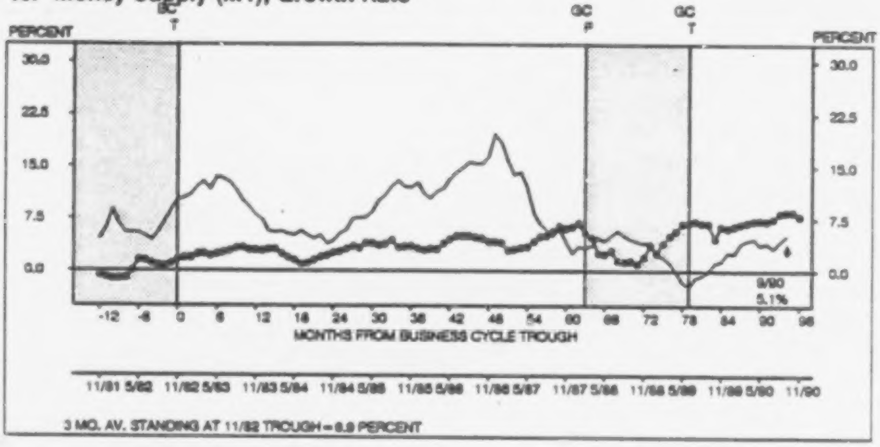
has offset faster growth in Federal debt..

68. Total Debt, Growth Rate



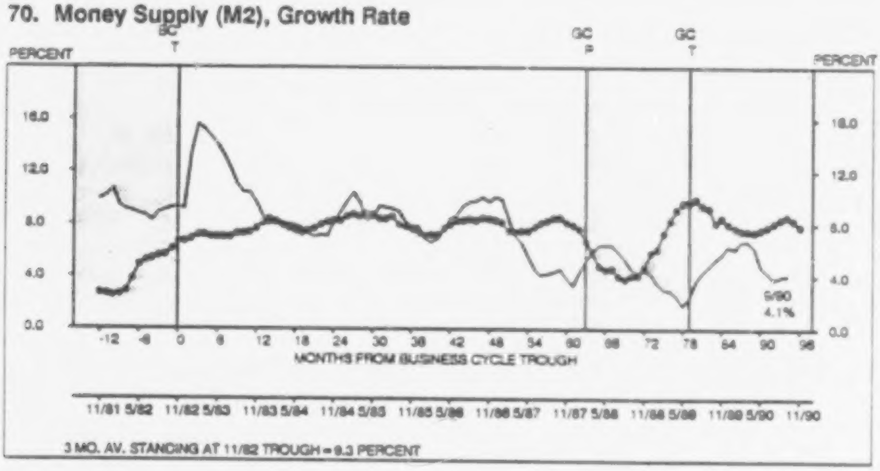
3 MO. AV. STANDING AT 11/82 TROUGH = 4.7 PERCENT

69. Money Supply (M1), Growth Rate



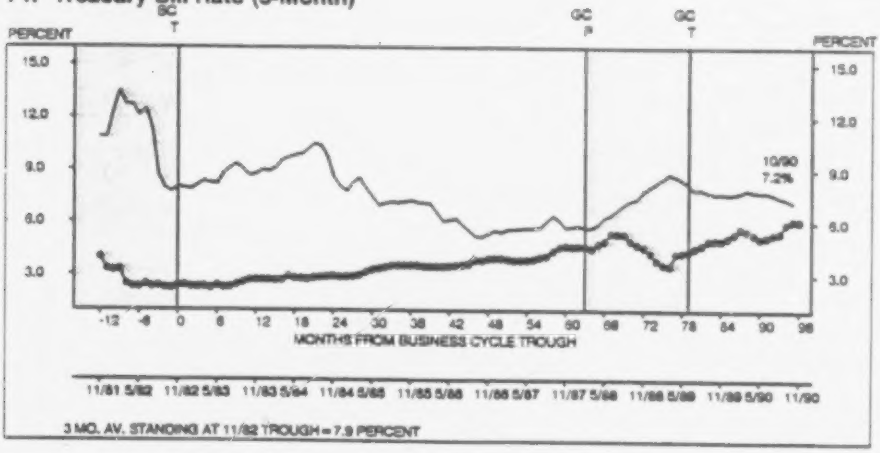
3 MO. AV. STANDING AT 11/82 TROUGH = 8.9 PERCENT

70. Money Supply (M2), Growth Rate



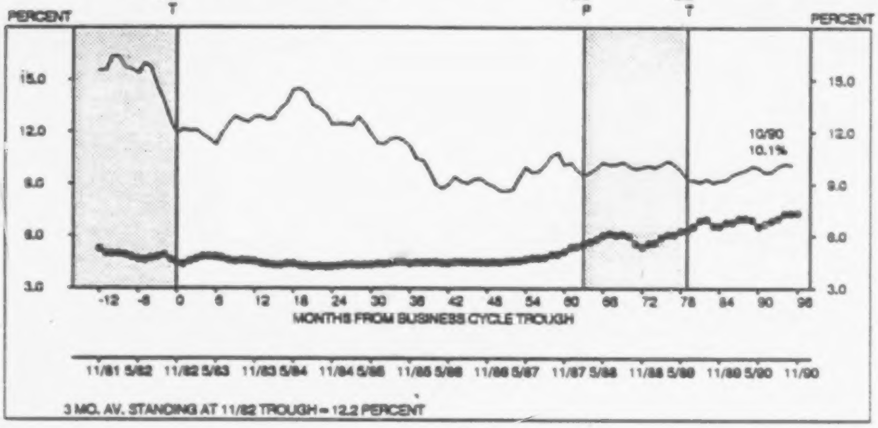
3 MO. AV. STANDING AT 11/82 TROUGH = 9.3 PERCENT

71. Treasury Bill Rate (3-Month)



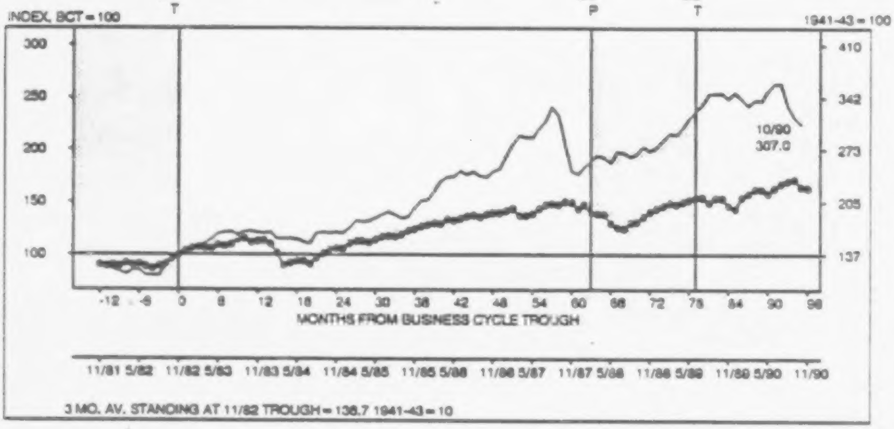
3 MO. AV. STANDING AT 11/82 TROUGH = 7.9 PERCENT

72. Corporate Bond Yields (AA)



3 MO. AV. STANDING AT 11/82 TROUGH = 12.2 PERCENT

73. Common Stock Price Index (S&P 500)



3 MO. AV. STANDING AT 11/82 TROUGH = 136.7 1941-43 = 10

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ABOUT THE CENTER FOR INTERNATIONAL BUSINESS CYCLE RESEARCH

The Center for International Business Cycle Research (CIBCR), established in 1979, specializes in the study of trends and fluctuations in economic growth and inflation in the United States and other countries. The analysis contained in this report is the result of the Center's ongoing research programs on U.S. business cycles. Readers are invited to submit comments and suggestions concerning this publication. In addition, readers wishing to secure data compiled by the Center on the ten other major industrial countries or copies of research reports may do so by communicating with:

Center for International Business Cycle Research
Uris Hall, Columbia University
New York, NY 10027
Telephone: (212) 280-2916

ABOUT THIS REPORT

Recession-Recovery Watch is a quarterly report designed to analyze current business cycle trends in terms of previous recession or recovery patterns in the United States.

This report was begun in August 1979, under the direction of Dr. Geoffrey H. Moore, following the methodology for measuring recessions developed at the National Bureau of Economic Research. Although no forecasts are made, the materials in this report do permit glimpses into the future: first, by analyzing the behavior of various leading indicators; second, by indicating what is likely to happen in terms of what did happen in previous recessions and recoveries.

The leading indicators used in this report are relevant to future output and employment because they represent actions taken, like the placing of orders, that will result in future output, or because they reflect factors, like profits, that influence future decisions on output. The record of what happens during the latter stages of business cycles is relevant because of the family resemblance among successive cycles, a resemblance that has its origin in the processes by which business cycles are generated. Every business cycle has its own surprises, partly because of policy actions taken, but many developments are not surprising, having occurred many times before. The historical comparisons contained in this report help one anticipate what is typical and distinguish it from the unusual.

Other CIBCR publications include International Economic Indicators, a monthly 80-page compilation of charts and data on leading and coincident indicators for eleven industrial countries. Monthly press releases are issued on a leading index of inflation and a leading employment index for the United States. A bulletin on leading and coincident Service Sector Indicators is also published monthly.

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RECESSION–RECOVERY WATCH...

A Quarterly Report
Designed to Assist in the Evaluation of Current Business Conditions

Published by the **Center for International Business Cycle Research**,
Columbia Business School, Columbia University, New York, NY 10027

Dr. Geoffrey H. Moore
Director

Vol.13, No. 1
February 1991

Summary

This report compares the track being followed by economic indicators during the current recession with their movements during previous mild or sharp recessions. Most of the results suggest a recession of about average severity. The movements of the leading indexes to date are consistent also with a recession of about average duration, which would put the end of it in the summer of 1991. The recession has become international in scope, a development that is likely to reduce the growth rate in U.S. exports.

Severity of the Current Recession

With this issue of Recession-Recovery Watch we resume presentation of recession patterns, which compare the current recession with previous recessions, both mild and sharp. We have not had occasion to do this since 1982, during the last recession, although we have compared slowdowns that became recessions with those that did not. In this case the slowdown that we date from February 1989 clearly became a recession. We place the business cycle peak in June 1990.

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Chart A illustrates the procedure used for recession comparisons. The two coincident indexes, otherwise known as indexes of economic performance, include comprehensive measures of aggregate economic activity. The BEA index includes industrial production, nonfarm employment, real personal income, and real manufacturing and trade sales. The CIBCR index includes several measures of employment and unemployment, and has the advantage of becoming available two or three weeks before the BEA index. Both indexes show that the current recession to date resembles earlier recessions. So far, it would be difficult to say whether it fits the mild or the sharp variety more closely. Rather, it resembles the average of all eight recessions between 1948 and 1982.

Two other types of information confirms this impression. One is based on CIBCR's long leading index, where we have found that its growth rate shortly after a recession has begun is correlated with the ultimate severity of the recession (Table A and Chart B). From this relationship during the eight recessions since 1948 we forecast that the total decline in real GNP from its peak in III1990 to its low quarter will be -2.7%. This is virtually the same as the -2.6% average decline during the previous eight recessions.

Another approach to the problem of forecasting recession severity is based on the extent to which recessions become international in scope. We have found that the more widespread recessions are internationally, the worse they are in the U.S. One of the major reasons for this is that recessions abroad weaken the demand for U.S. exports. Our current measure of the international scope of recession shows that declines are occurring in about two-thirds of the leading and coincident indexes available for eleven countries (Chart C). Judging from its past record as shown in the November 1990 issue of Recession-Recovery Watch, this measure also suggests that the current recession is apt to be of about average severity.

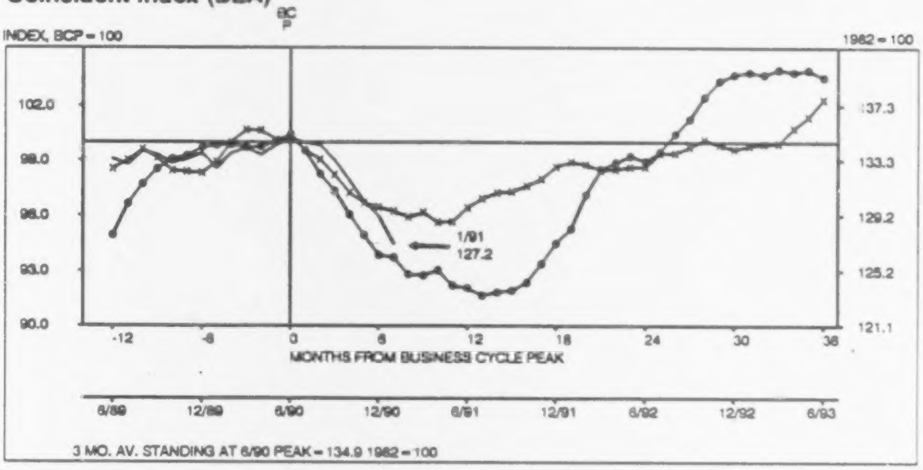
The trade balance has come to have a very important effect on the U.S. economy, and variations in the way the trade balance is measured can make a big difference in the size of movements in real GNP. In the fourth quarter, real GNP declined at an annual rate of -1.6%, according to the final estimates by the Department of Commerce (March 27). We have adjusted the trade balance (net exports) for price changes by a procedure that allows change in the terms of trade to affect the real balance, and find that real GNP fell at the rate of -4.2% in the fourth quarter (Table B). Our measure makes the recession more than twice as severe, so the question which method is more reasonable has an important bearing on the question how severe is the current recession. Our method also shows that final sales in constant dollars declined in the fourth quarter, as they usually do during recessions, whereas the Department's figures show an increase.

Signals of An Upturn

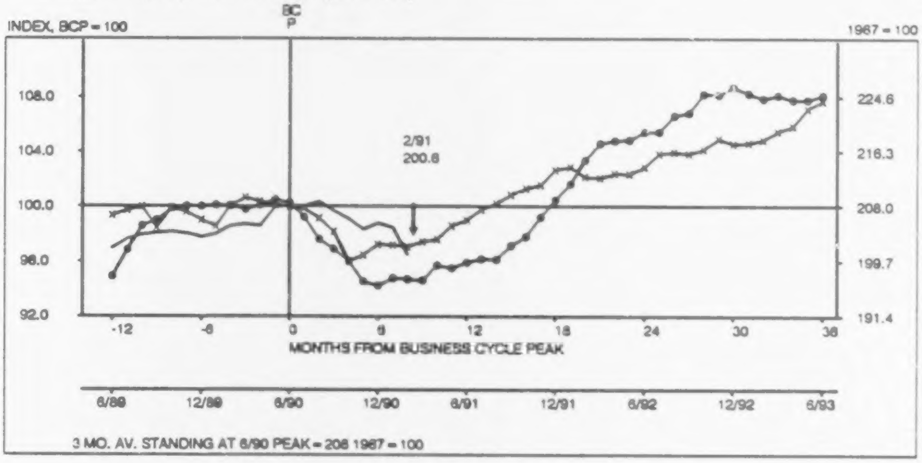
The CIBCR signal system that gives early warnings and confirmation of business cycle peaks and troughs has been revised slightly to make use of the new long leading index. The new index includes six components, four of which are the same as in the previous index (bond prices, real money supply (M2), building permits and the ratio of prices to unit labor cost in manufacturing). The two new components are the growth rate in productivity in manufacturing and the growth rate of services prices treated invertedly. The new index is less subject to revision and

CHART A.
CURRENT RECESSION COMPARED WITH PREVIOUS MILD AND SHARP RECESSION

Coincident Index (BEA)



Leading Employment Index (CIBCR)



Average, 3 mild recessions (1960, 1969, 1980)

Average, 5 sharp recessions (1948, 1953, 1957, 1973, 1981)

Current Recession (1990)

Center for International Business Cycle Research, Columbia Business School.

TABLE A.
NEW LONG LEADING INDEX FORECASTS OF RECESSION SEVERITY, 1948-91

Business Cycle Peak mos. (1)	Trough (2)	Length of Recession, Peak to trough, (3)	Percent Change in Real GNP during Recession* after Peak** (4)	Growth Rate in New Long Leading Index, 6 mos. Recession*** (5)	Forecast Percent Change in Real GNP during (6)
11/48	10/49	11	-2.0	3.9	-1.8
7/53	5/54	10	-3.0	0.3	-2.3
8/57	4/58	8	-3.5	-4.6	-2.9
4/60	2/61	10	-1.0	4.0	-1.8
12/69	11/70	11	-1.1	-2.7	-2.7
11/73	3/75	16	-4.3	-14.7	-4.3
1/80	7/80	6	-2.3	-1.7	-2.5
7/81	11/82	16	-3.4	-0.4	-2.4
6/90	---	--	---	-2.6	-2.7
Average					
3 mild recessions (60, 69, 80)		9	-1.5	-0.1	-2.3
5 sharp recessions (48, 53, 57, 73, 81)		12	-3.2	-3.1	-2.7
8 recessions		11	-2.6	-2.0	-2.6

*Total change from peak quarter to trough quarter in real GNP, not annualized.

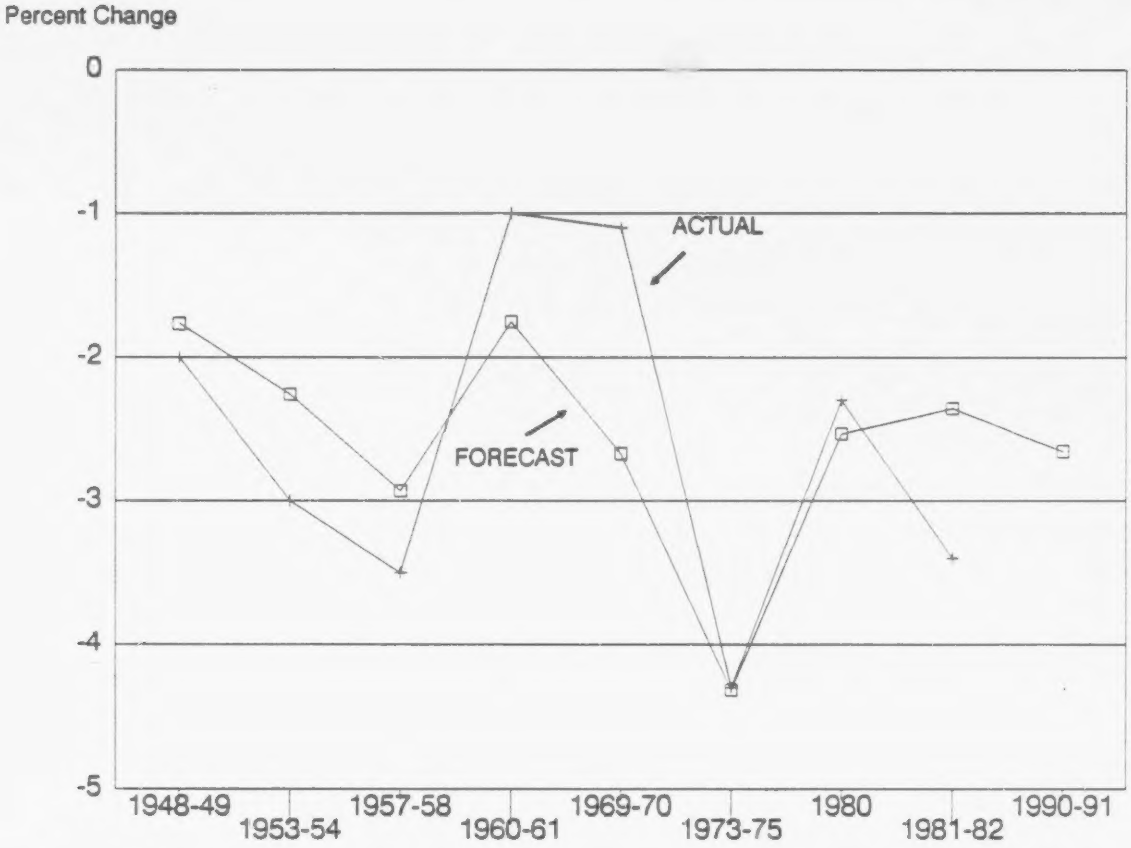
**Growth rate is annualized percent change, based on ratio of index six months after business cycle peak to average index during the twelve preceding months.

***Forecasts are based on the regression between columns (4) and (5). RSQ = .48.

CHART B.

FORECASTS OF RECESSION SEVERITY BASED ON LONG LEADING INDEX

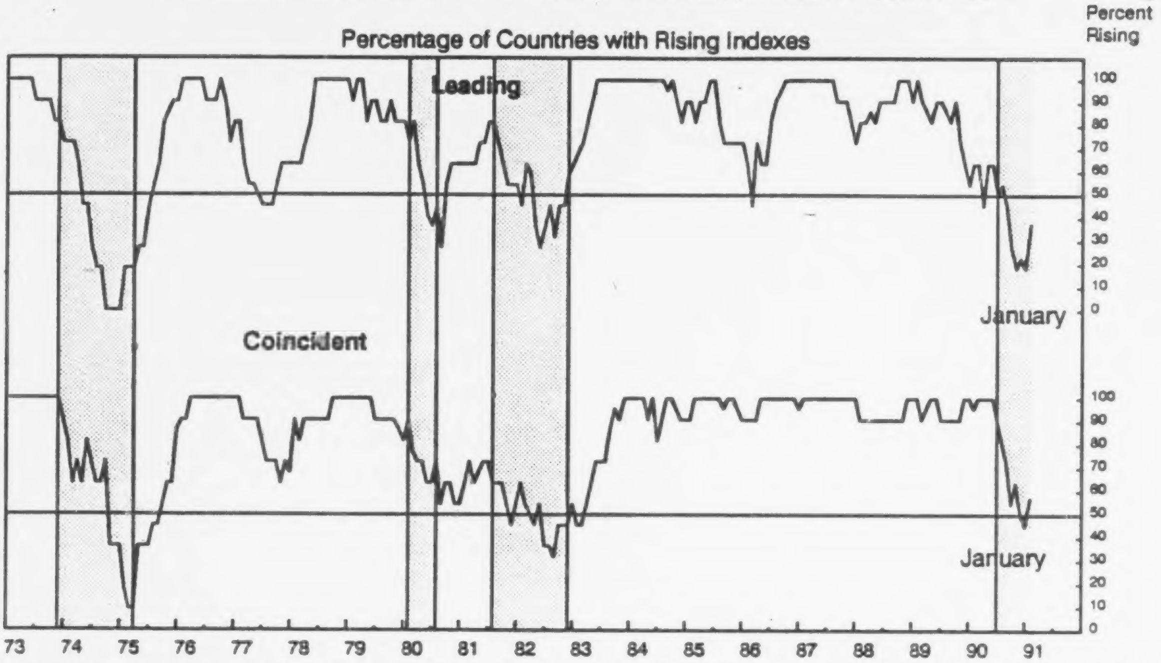
Forecast and Actual Percent Change in Real GNP from High to Low Quarters



Note: Forecasts are based on the six-month smoothed growth rate in the long-leading index 6 months after the business cycle peak. For 1990 the business cycle peak is tentatively set at June.

Center for International Business Cycle Research, March 1991.

CHART C.
LEADING AND COINCIDENT DIFFUSION INDEXES, ELEVEN COUNTRIES



Shaded areas represent periods of recession in the U.S. economy. The diffusion indexes show what proportion of the eleven countries have rising leading or coincident indexes, based on whether the current month's index is higher or lower than the preceding 12-month average. The countries are: United States, Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, South Korea, and New Zealand.

Center for International Business Cycle Research, March 1991.

LEADING AND COINCIDENT DIFFUSION INDEXES, ELEVEN COUNTRIES

	-------------Percent	Rising-----------------	
	Leading	Coincident	Leading and Coincident
1989:			
Apr.	82	100r	91r
May	91	100r	95r
June	91	91	91
July	86r	91	89
Aug.	82r	91	86r
Sep.	91	91	91r
Oct.	73	91	82
Nov.	64	100	82
Dec.	55	100	77
1990:			
Jan.	64	96	80
Feb.	64	100	82
Mar.	46	100	73
Apr.	64	100r	82r
May	64r	100	82r
June	50r	91	70r
July	55	82	68
Aug.	46	73	59
Sep.	27r	55	41r
Oct.	18r	64r	41r
Nov.	23r	50(10)	36(21)r
Dec.	18r	45(10)r	32(21)r
1991:			
Jan.	38(8)	57(7)	47(15)

Note: Numbers in parentheses are the number of indexes included when not all are available. When the growth rate is 0.0, the index is counted as 1/2 rising. r = revised.

Center for International Business Cycle Research, March 1991.

TABLE B.
ALTERNATIVE ESTIMATES OF REAL GNP AND FINAL SALES, 1990

	III Qtr. (billions, 1982$)	IV Qtr. (billions, 1982$)	Change, III-IV (billions, 1982$)	Percent Change, III-IV (annual Rate)
Commerce Department Method				
Net Exports	-46.5	-8.9	+37.6	---
Plus Final Sales to Domestic Purchasers	4221.8	4188.6	-23.2	-2.2%
Equals Total Sales	4165.3	4179.7	+14.4	1.4%
Plus Change in Inventories	4.7	-26.4	31.1	---
Equals GNP	4170.0	4153.4	-16.6	-1.6%
CIBCR				
Net Exports*	-31.3	-21.6	+9.7	---
Plus Final Sales to Domestic Purchasers	4211.8	4188.6	-23.2	-2.2%
Equals Total Final Sales	4180.5	4167.0	-13.5	-1.3%
Plus Change in Inventories	4.7	-26.4	-31.1	---
Equals GNP	4185.2	4140.6	-44.6	-4.2%

*Deflated by implicit price deflator for gross domestic purchases.

Center for International Business Cycle Research, March 27, 1991.

produces fewer false signals, while the new components allow for the favorable effects of faster productivity growth and slower advances in the cost of services.

The record of the signal system at business cycle troughs is shown in Table C. The first signal occurs when the smoothed growth rate of the long leading index first exceeds 1.0%. This has happened, on average, four months before the business cycle trough. On one occasion (1980) the signal lagged by a month, and twice it occurred in the same month. It gave an advance warning five times. The latest figures for the index show a negative growth rate continuing through February at -1.2%, although this is a considerable improvement over the -3.7% rate in January. Indeed, all but one of the six components showed some improvement in February (the growth rate in services prices remained the same) and the index itself went up. Hence we conclude that some signs of an upturn in the economy are emerging, but not sufficiently to give a conclusive signal. At least, the record is consistent with an end to the recession this summer.

TABLE C.
FOUR SIGNALS OF RECOVERY: LEAD-LAG RECORD, 1949-90

Business Cycle Trough	LLT1 Signal (LL>1.0)	T1 Signal (L>1.0, C<1.0)	T2 Signal (L>4.3, C>1.0)	P3 Signal (L>4.3, C>4.3)	Lead(-) or Lag(+), in Months, at Business Cycle Troughs			
					LLT1	T1	T2	T3
10/49	1/49	8/49	1/50	3/50	-9	-2	+3	+5
none	2/52	6/52*	6/52**	8/52	-	-	-	-
5/54	2/54	5/54	11/54	12/54	-4	0	+6	+7
4/58	4/58	6/58	10/58	11/58	0	+2	+6	+7
2/61	7/60	1/61	6/61	8/61	-7	-1	+4	+6
none	-	-	12/62**	5/63	-	-	-	-
none	2/67	6/67*	7/67**	11/67	-	-	-	-
11/70	9/70	12/70	5/71	12/71	-2	+1	+6	+13
3/75	3/75	6/75	10/75	1/76	0	+3	+7	+10
7/80	8/80	9/80	12/80	-	+1	+2	+5	-
11/82	2/82	9/82	5/83	6/83	-9	-2	+6	+7
none	-	-	7/85**		-	-	-	-
Mean					-4	0	+5	+8
Standard Deviation					4	2	1	3

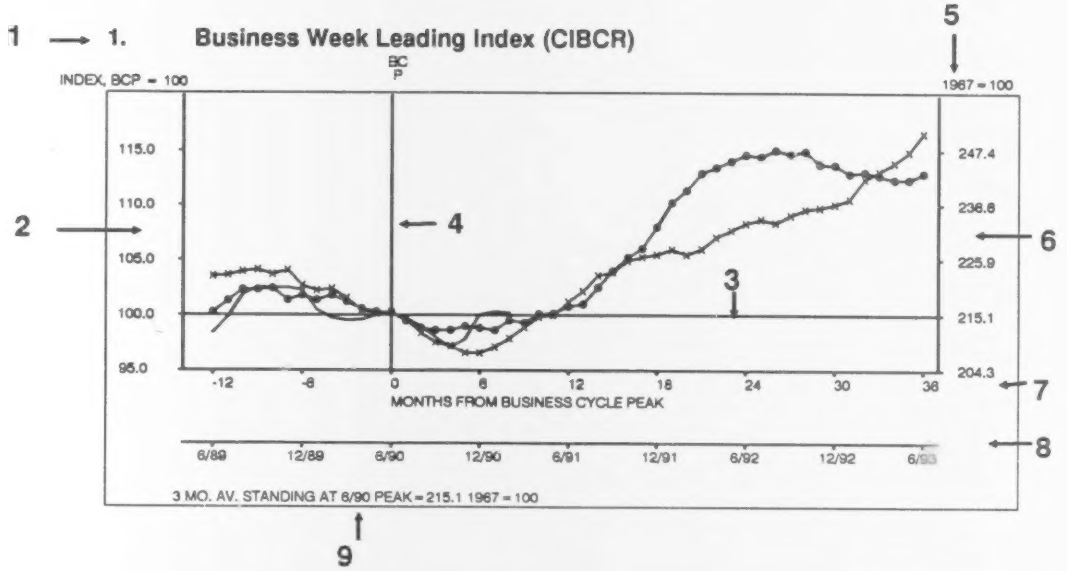
This table is a revision of Table 4-7, p. 50, in Moore, Geoffrey H., *Business Cycles, Inflation and Forecasting*, 1983.

*P2 signal canceled (L > 1.0 or C > 4.3)

**P1 signal canceled (L > 4.3)

Center for International Business Cycle Research, Columbia University,
March 1991.

HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the *actual level* rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in *both* current and past recessions as a percentage of business cycle peak (BCP) standings. This is the common vertical scale along which the recessions are compared.

3 HORIZONTAL LINE shows levels at reference peak (100) for current and past recessions.

4 VERTICAL LINE represents reference peak dates for current and past recessions which are all aligned so that the business cycle peak (BCP) dates are positioned on the vertical line; i.e., the peaks of past recessions are aligned with the current peak to facilitate comparison.

5 UNITS for right-hand scale refer *only* to the *current* peak.

6 RIGHT-HAND SCALE refers *only* to the *current* recession. It is a transformation of the left-hand scale to show the current recession in original units rather than with peak standing at 100.

7 HORIZONTAL SCALE measures months from business cycle peak (BCP) for *both* the current and past recessions. This is the common time scale along which the recessions are compared.

8 ACTUAL DATES refer only to the current recession.

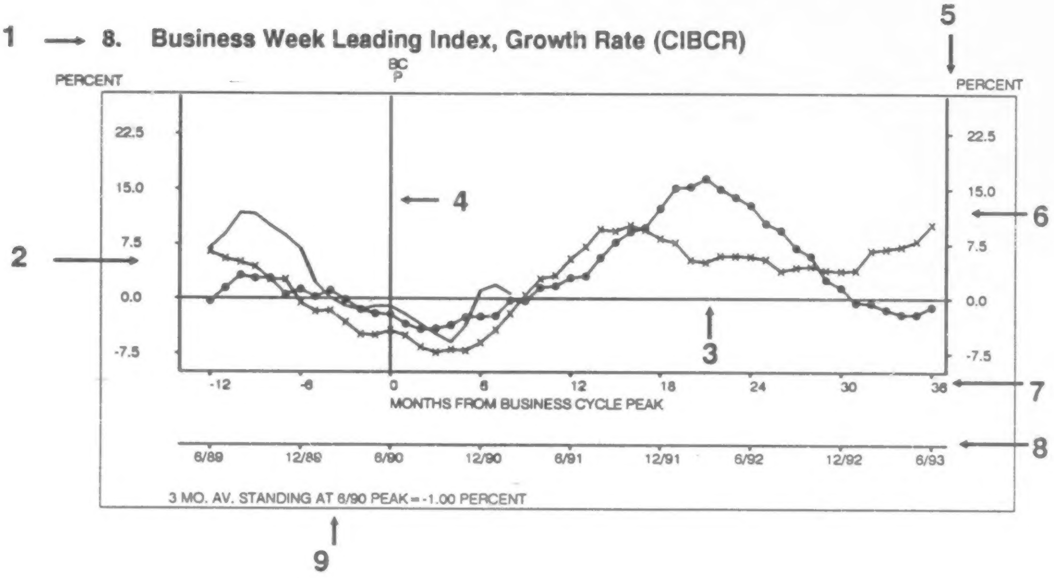
9 STANDING AT THE PEAK is the level at which the *current* recession began, and is calculated as the 3-month average centered on the peak month.

-o-o-o-o-o-o-o-o- LINE WITH CIRCLES indicates average over 5 severe recessions (1948-49, 1953-54 1957-58, 1973-75, and 1981-82).

××××××××× LINE WITH CROSSES indicates average of over 3 mild recessions (1960-61, 1969-70, and 1980).

————————SOLID LINE indicates the current recession, assumed to have begun in June 1990, or Q3, 1990.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed *growth rate*, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for *both* current and past recessions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past recessions.

4 VERTICAL LINE represents reference peak dates for current and past recessions, which are aligned so that the business cycle peak (BCP) dates are positioned on the vertical line; i.e., the peaks of past recessions are aligned with the current peak to facilitate comparison.

5 UNITS for both scales in percent refer to growth rates for *both* current and past recessions.

6 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for *both* current and past recessions.

9 HORIZONTAL SCALE measures months from business cycle peak (BCP) for *both* current and past recessions. This is the common time scale along which the recessions are compared.

10 ACTUAL DATES refer *only* to the *current* recession.

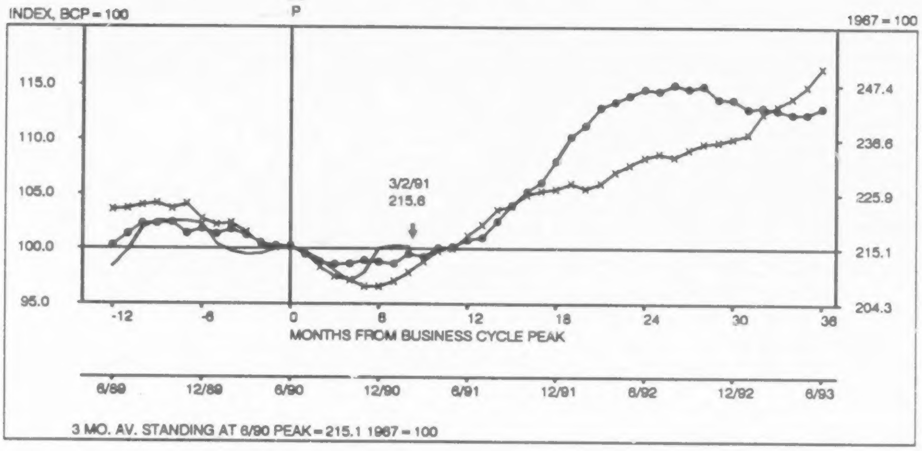
11 STANDING AT THE PEAK is the growth rate at the time the current recession began, and is calculated as the 3-month average centered on the peak month.

-o-o-o-o-o-o-o- LINE WITH CIRCLES indicates average over 5 severe recessions (1948-49, 1953-54 1957-58, 1973-75, and 1981-82).

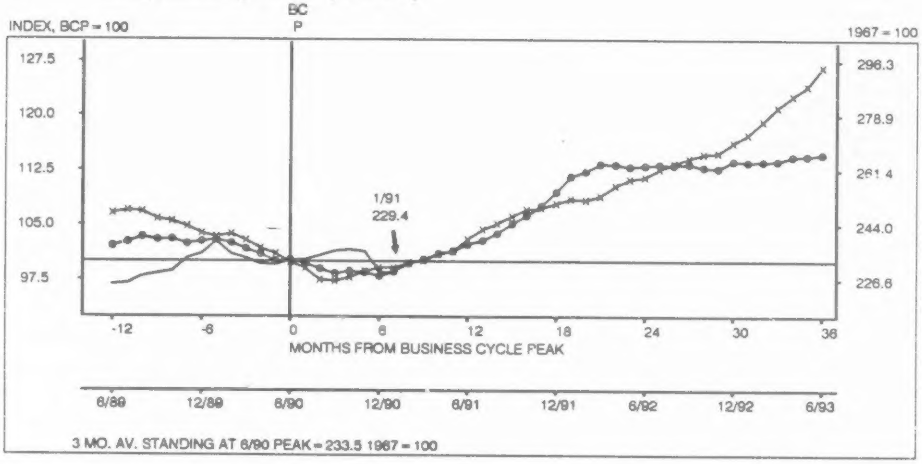
-x-x-x-x-x-x-x-x- LINE WITH CROSSES indicates average of over 3 mild recessions(1960-61, 1969-70, and 1980).

———————— SOLID LINE indicates the current recession, assumed to have begun in June 1990, or Q3, 1990.

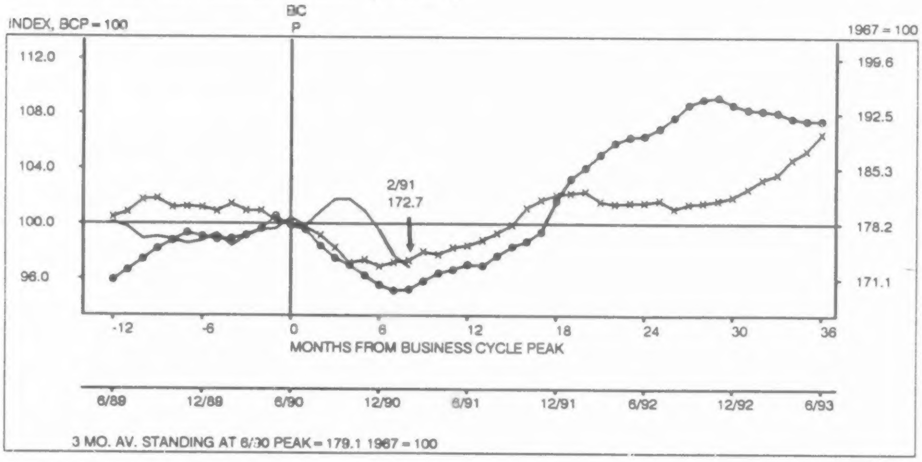
1. Business Week Leading Index (CIBCR)



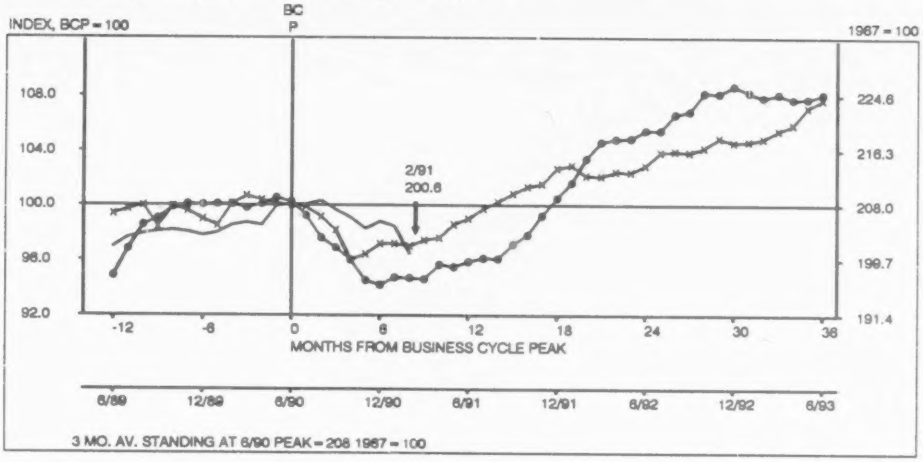
2. Long-Leading Index (CIBCR)



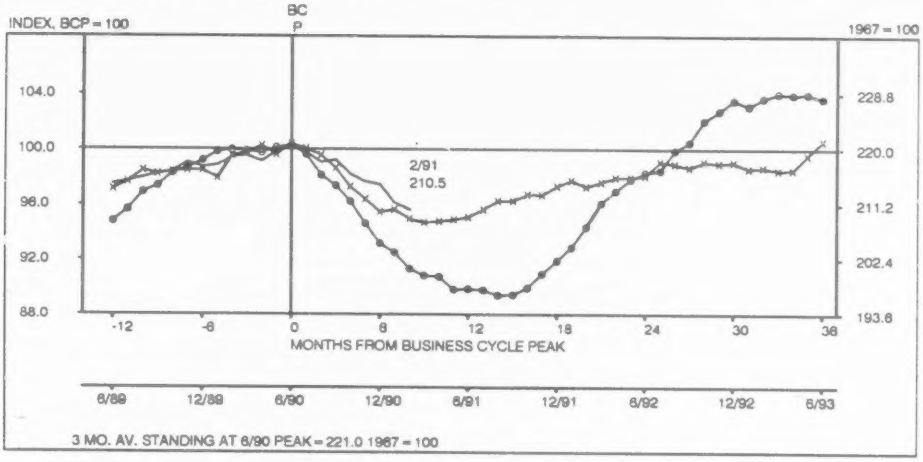
3. N.A.P.M. Leading Index (CIBCR)



4. Leading Employment Index (CIBCR)

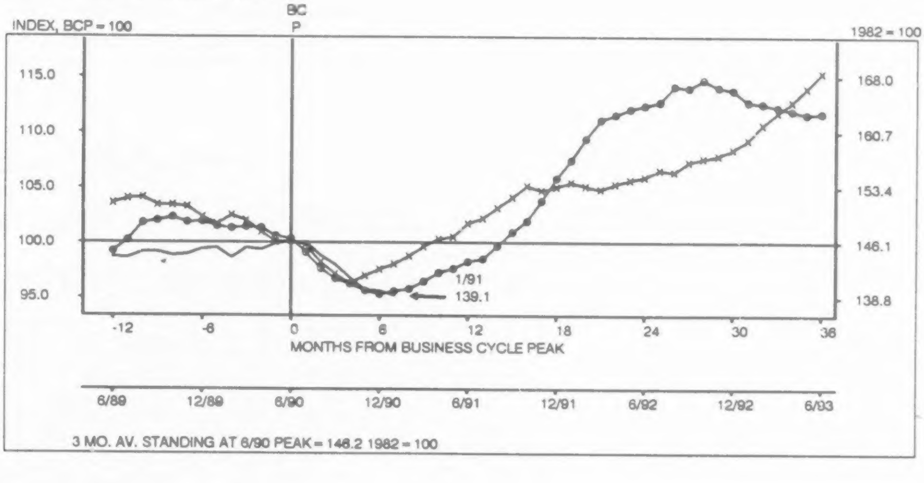


5. Coincident Employment Index (CIBCR)

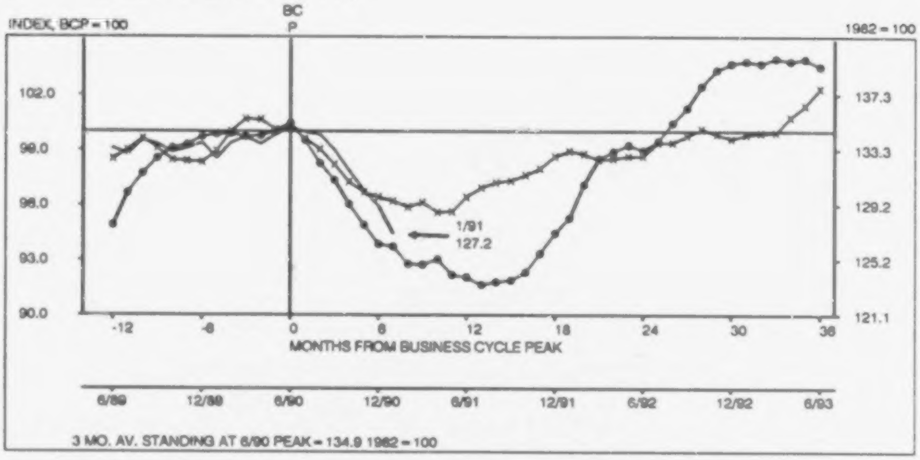


The Employment Indexes are following the patterns typical of milder recessions.

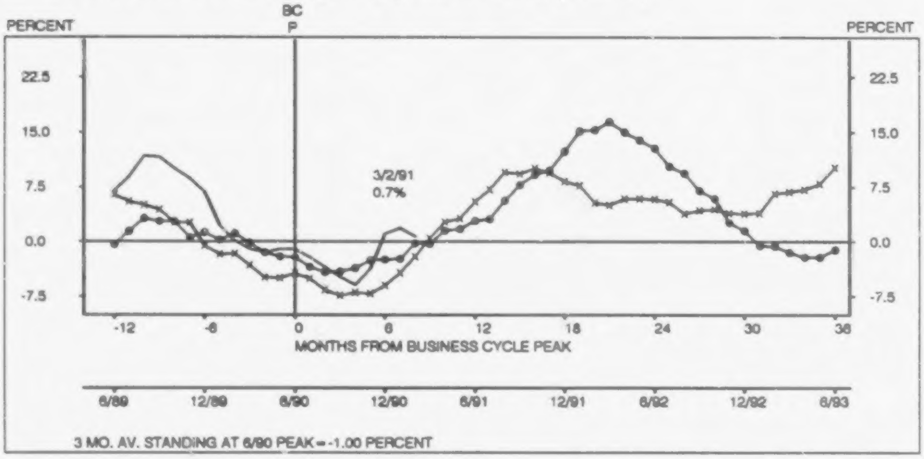
6. Leading Index (BEA)



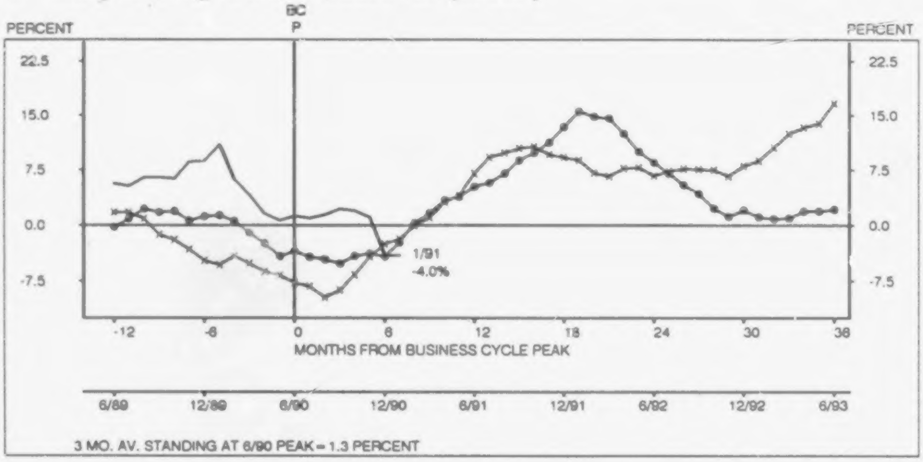
7. Coincident Index (BEA)



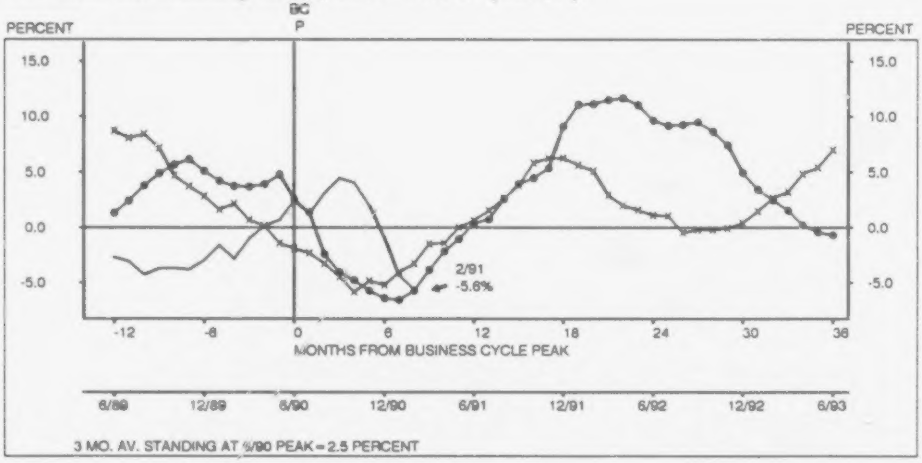
8. Business Week Leading Index, Growth Rate (CIBCR)



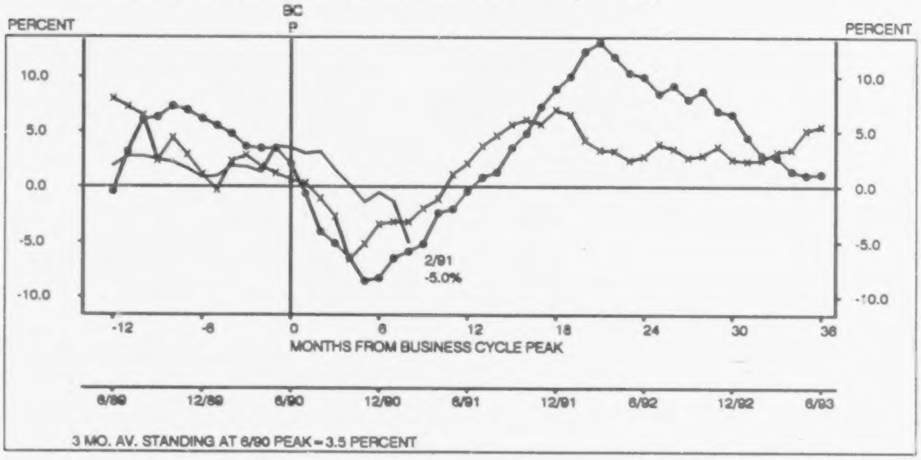
9. Long-Leading Index, Growth Rate (CIBCR)



10. N.A.P.M. Leading Index, Growth Rate (CIBCR)

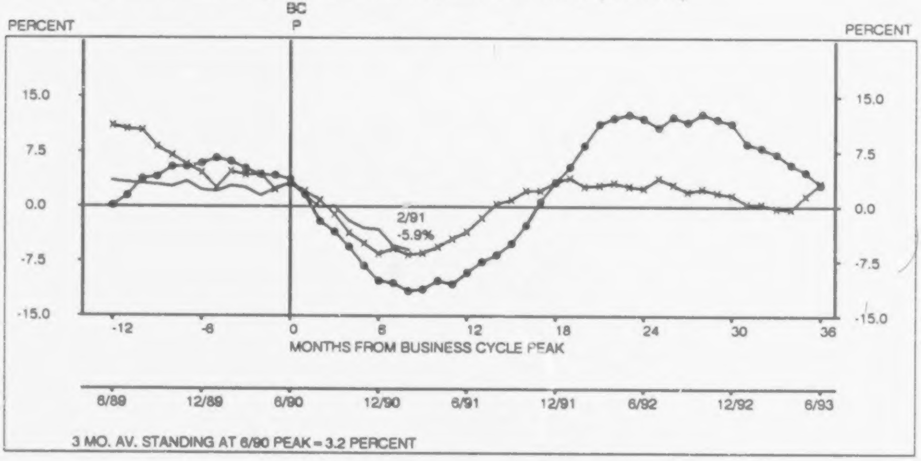


11. Leading Employment Index, Growth Rate (CIBCR)



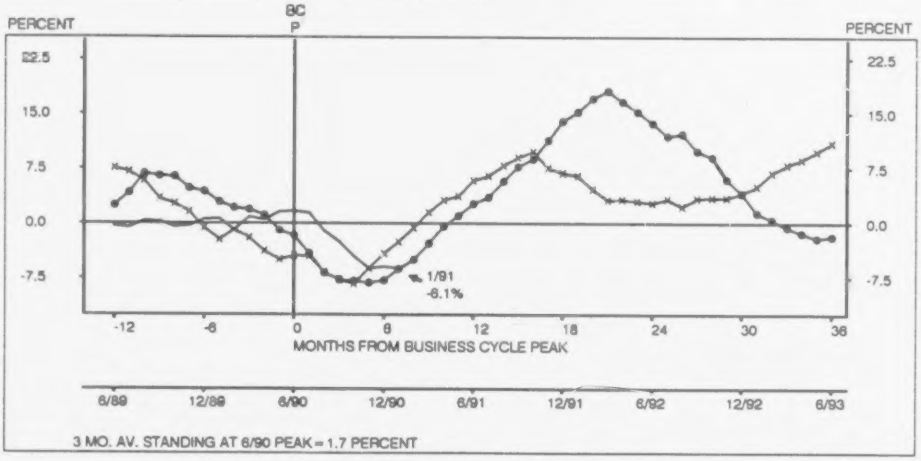
3 MO. AV. STANDING AT 6/90 PEAK = 3.5 PERCENT

12. Coincident Employment Index, Growth Rate (CIBCR)



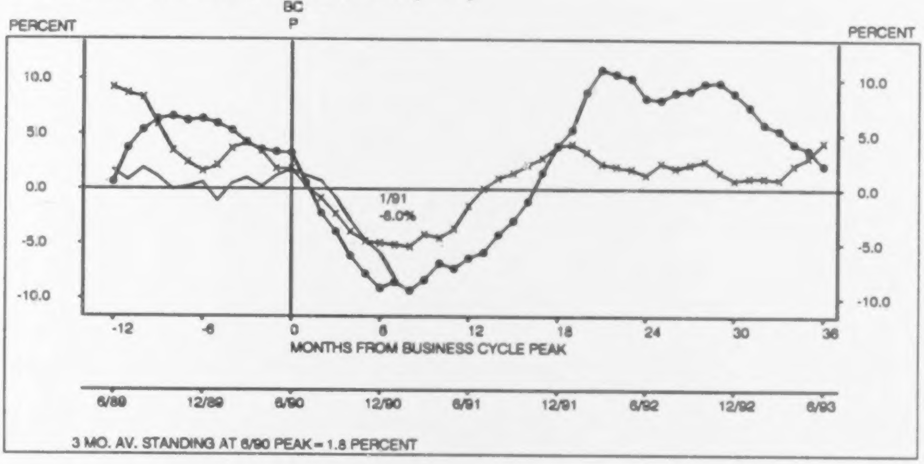
3 MO. AV. STANDING AT 6/90 PEAK = 3.2 PERCENT

13. Leading Index, Growth Rate (BEA)



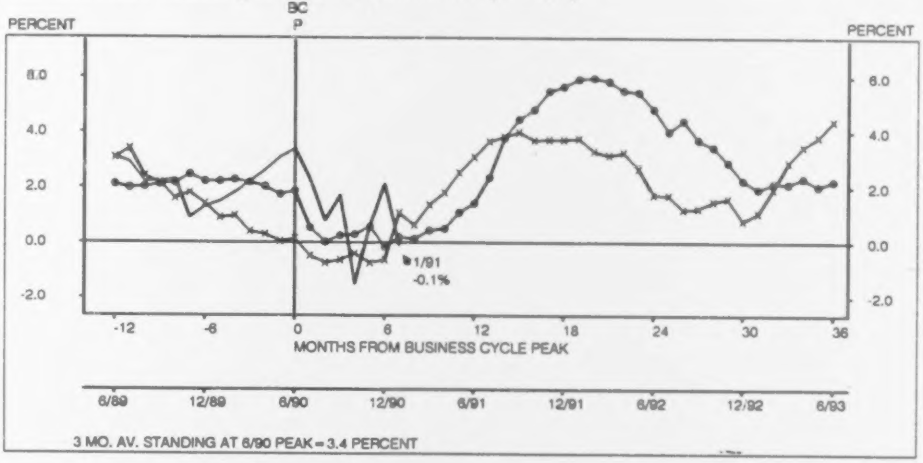
3 MO. AV. STANDING AT 6/90 PEAK = 1.7 PERCENT

14. Coincident Index, Growth Rate (BEA)



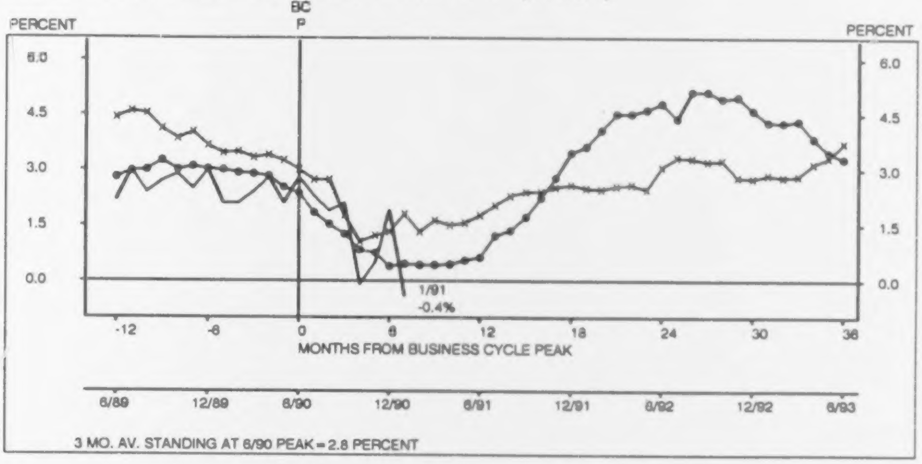
3 MO. AV. STANDING AT 6/90 PEAK = 1.8 PERCENT

15. Services Leading Index, Growth Rate (CIBCR)



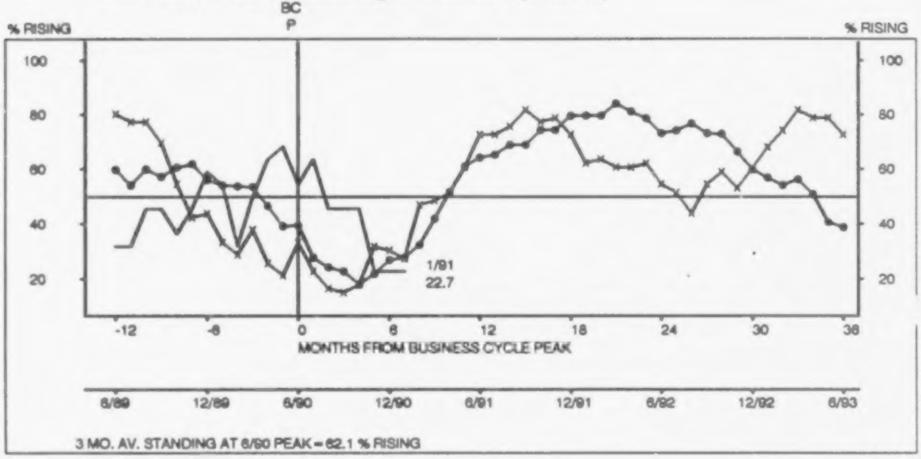
3 MO. AV. STANDING AT 6/90 PEAK = 3.4 PERCENT

16. Services Coincident Index, Growth Rate (CIBCR)



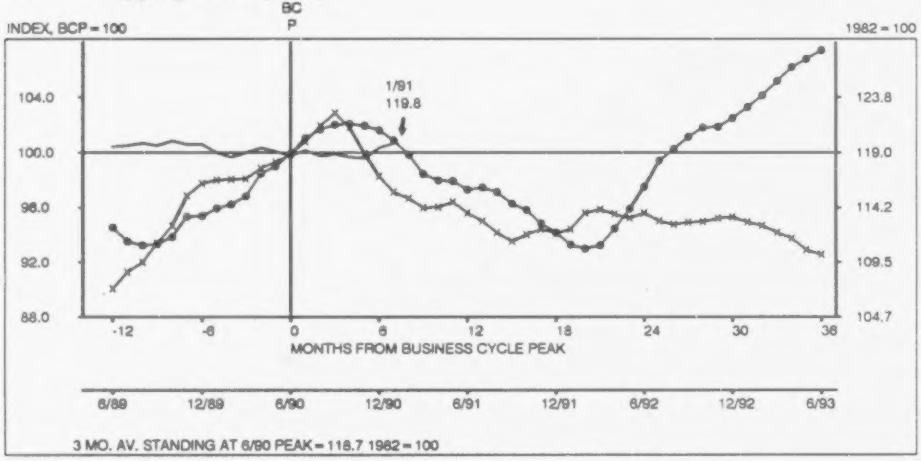
3 MO. AV. STANDING AT 6/90 PEAK = 2.8 PERCENT

17. Diffusion Index of Leading Indicators (CIBCR)



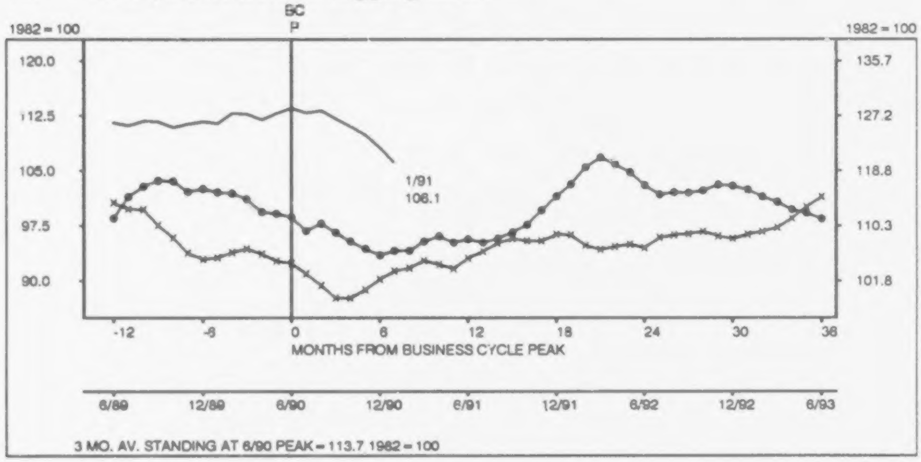
3 MO. AV. STANDING AT 6/90 PEAK = 62.1 % RISING

18. Lagging Index (BEA)



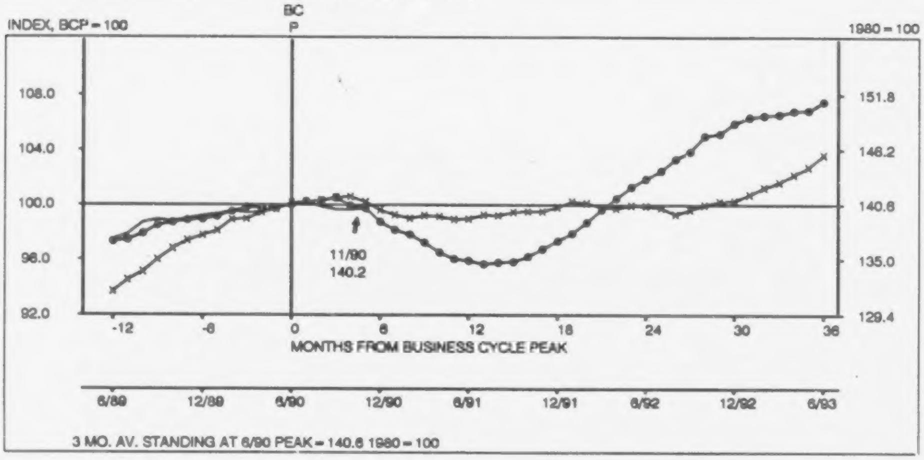
3 MO. AV. STANDING AT 6/90 PEAK = 118.7 1982 = 100

19. Ratio, Coincident to Lagging Index

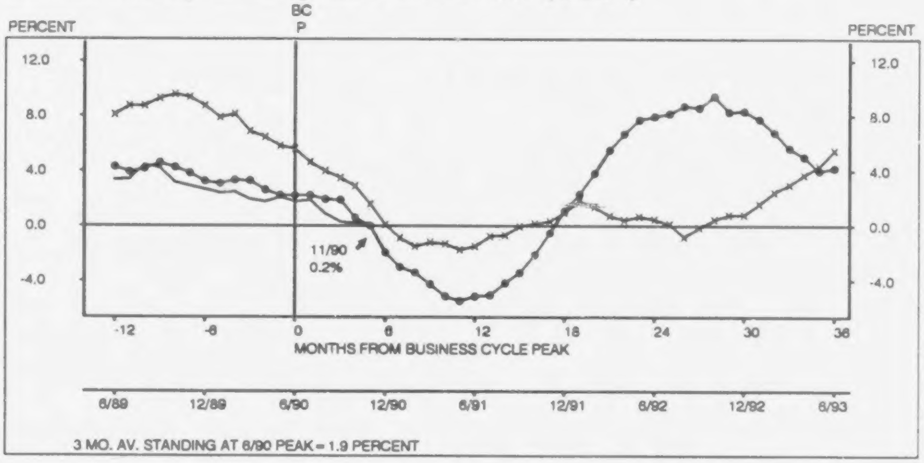


3 MO. AV. STANDING AT 6/90 PEAK = 113.7 1982 = 100

20. Ten-Country* Leading Index (CIBCR)**



21. Ten-Country* Leading Index, Growth Rate (CIBCR)**



The Index and its growth rate are hewing very closeley to the pattern followed during severe U.S. recessions, which have often been accompanied by global recessions.

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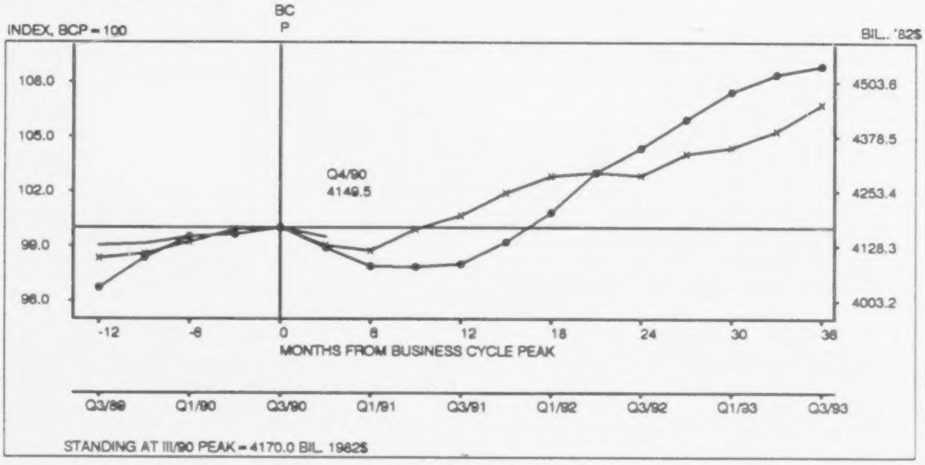
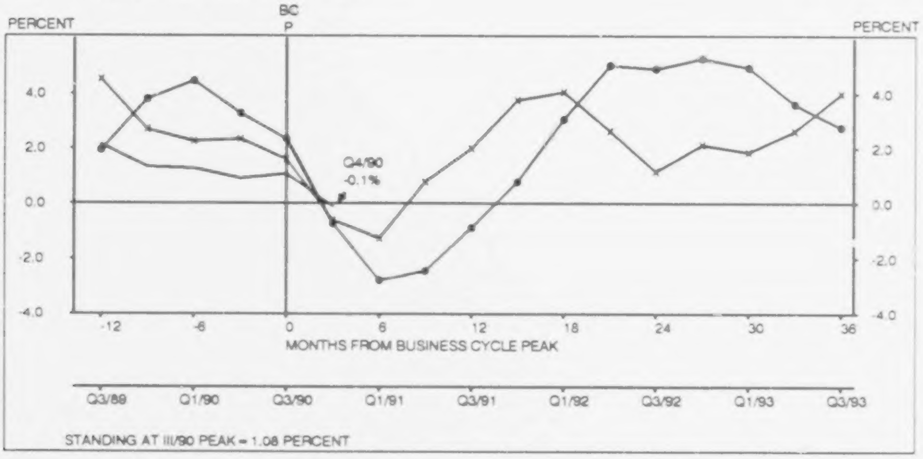
*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

**1948-49 and 1953-59 recessions omitted from average of servere recessions, because series begin later.

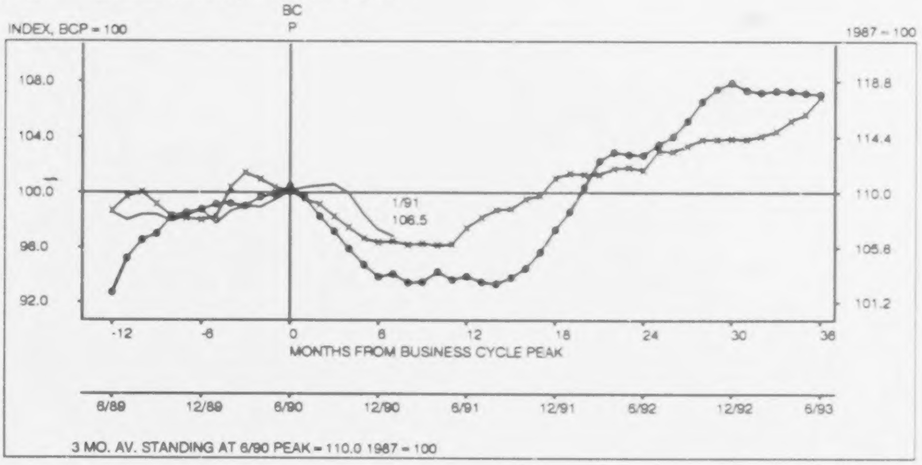
22. Real GNP



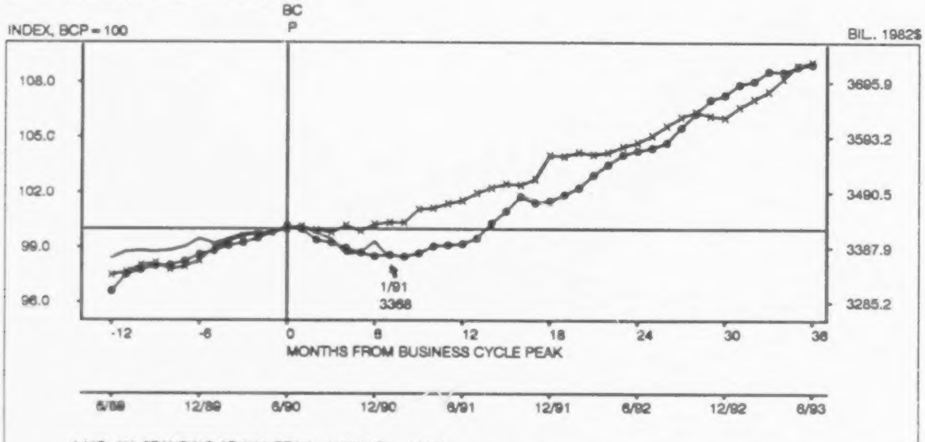
23. Real GNP, Growth Rate



24. Industrial Production Index

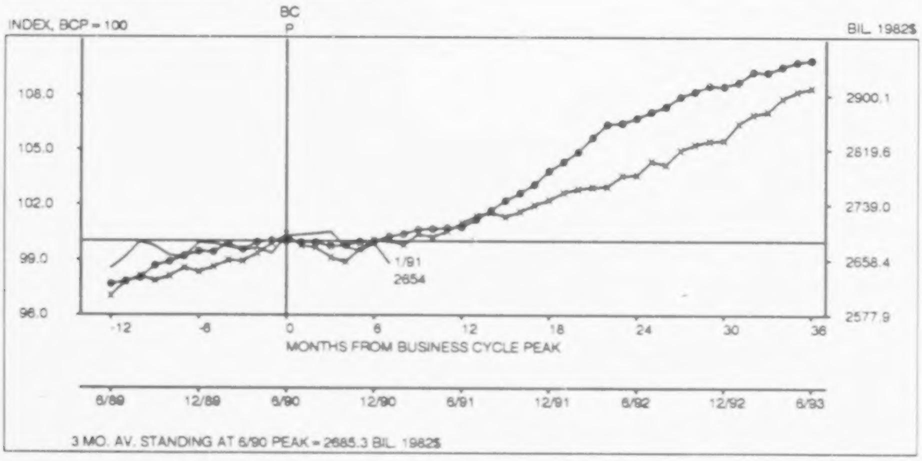


25. Real Personal Income



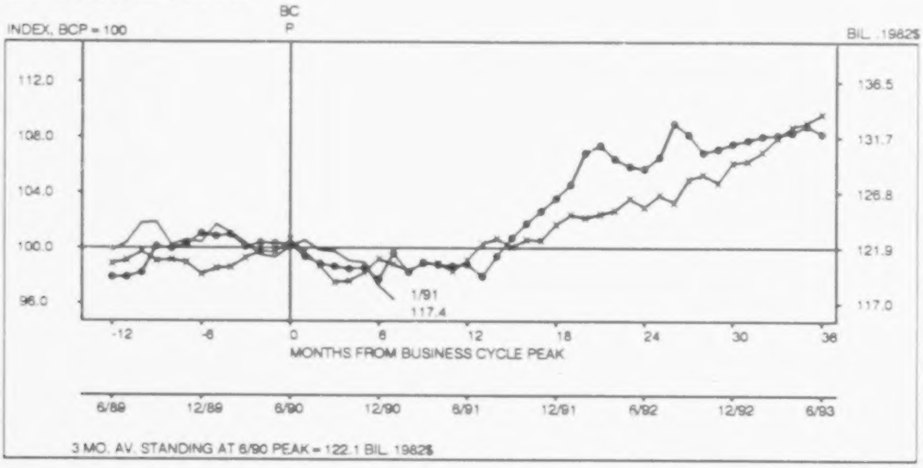
3 MO. AV. STANDING AT 6/90 PEAK = 3422.3 BIL. 1982$

26. Real Consumer Expenditures



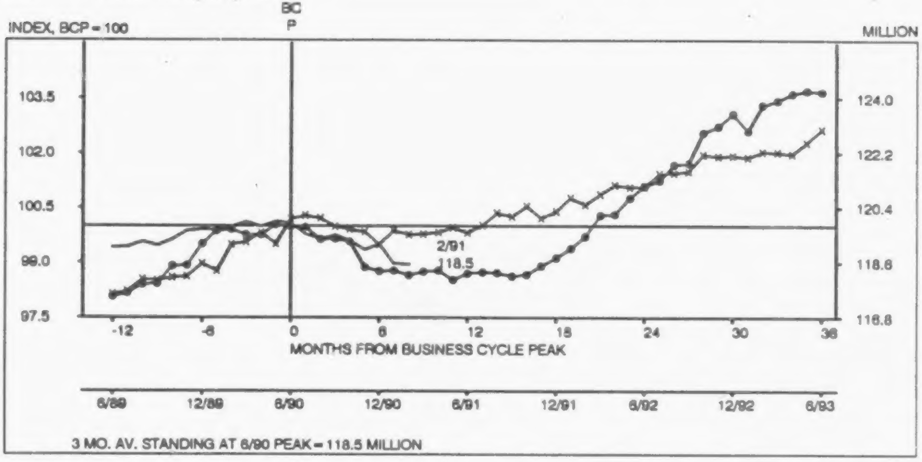
3 MO. AV. STANDING AT 6/90 PEAK = 2685.3 BIL. 1982$

27. Real Retail Sales



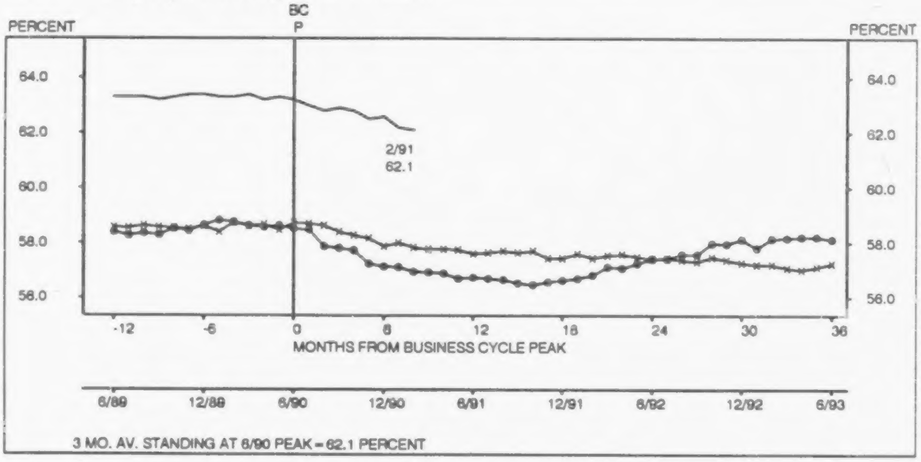
3 MO. AV. STANDING AT 6/90 PEAK = 122.1 BIL. 1982$

28. Total Employment



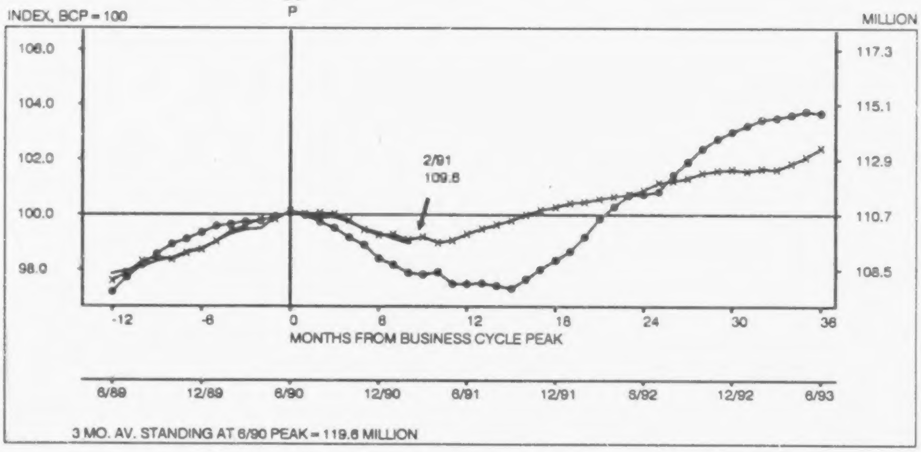
3 MO. AV. STANDING AT 6/90 PEAK = 118.5 MILLION

29. Employment/Population Ratio



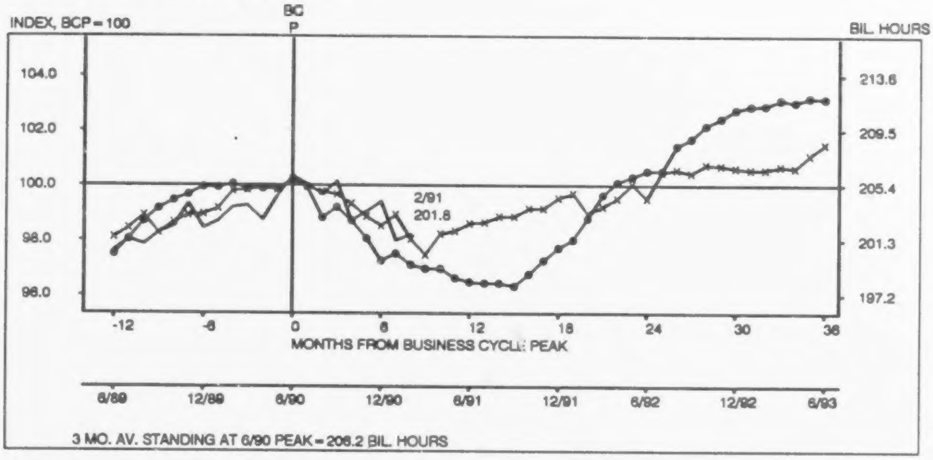
3 MO. AV. STANDING AT 6/90 PEAK = 62.1 PERCENT

30. Nonfarm Employment

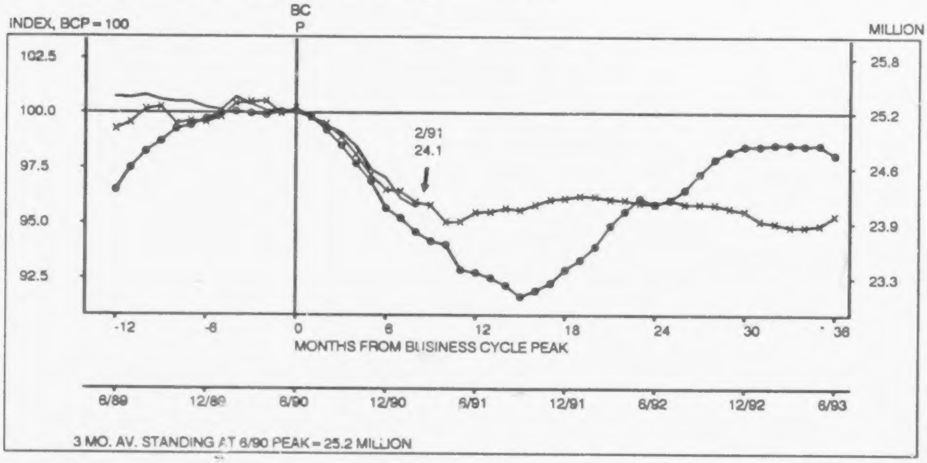


3 MO. AV. STANDING AT 6/90 PEAK = 119.8 MILLION

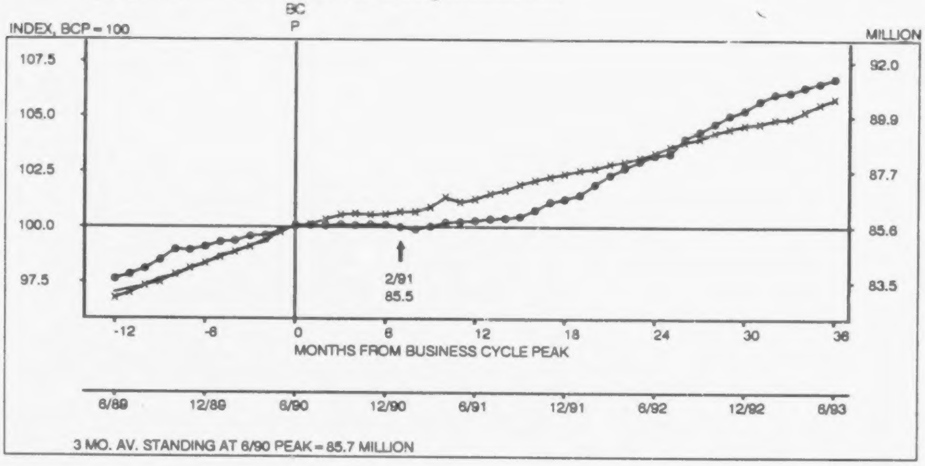
31. Nonfarm Employee-Hours



32. Employment in Goods-Producing Industries

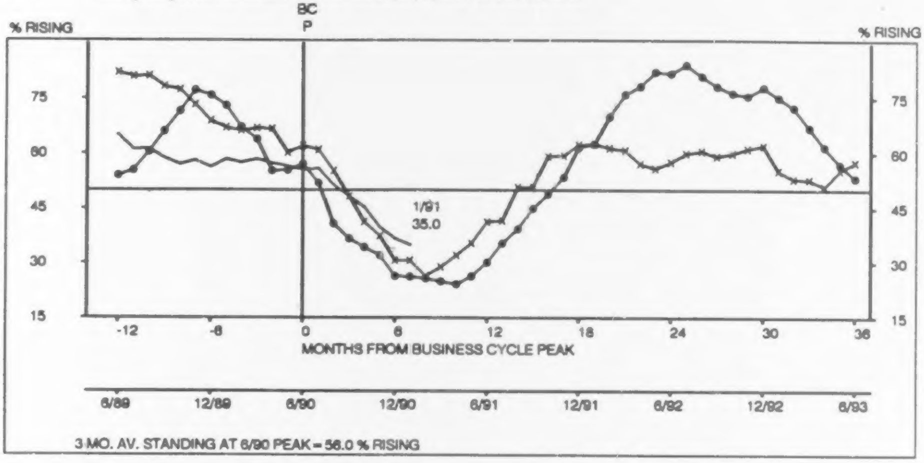


33. Employment in Service-Producing Industries



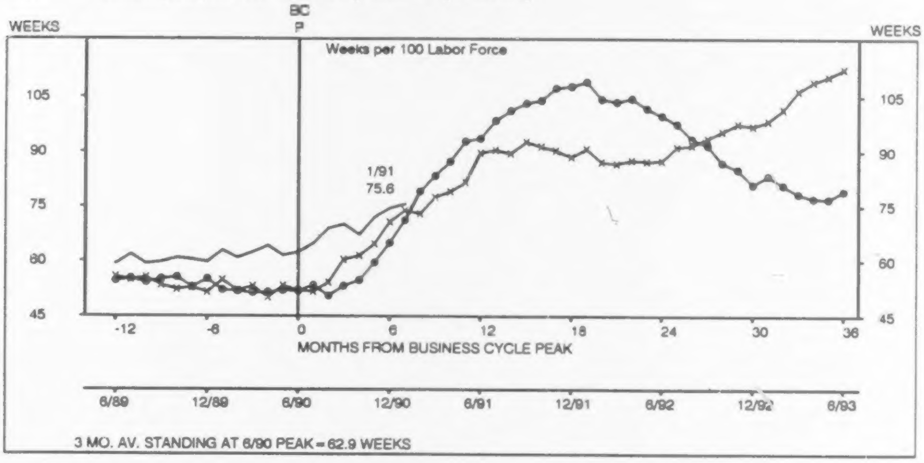
Employment in Goods-Producing Industries is following the mild-recession pattern, while employment in service-producing industries is following the severe-recession pattern. As usual, however, the decline in employment in goods-producing industries has been much sharper than in services.

34. Employment Diffusion Index, 349 Industries



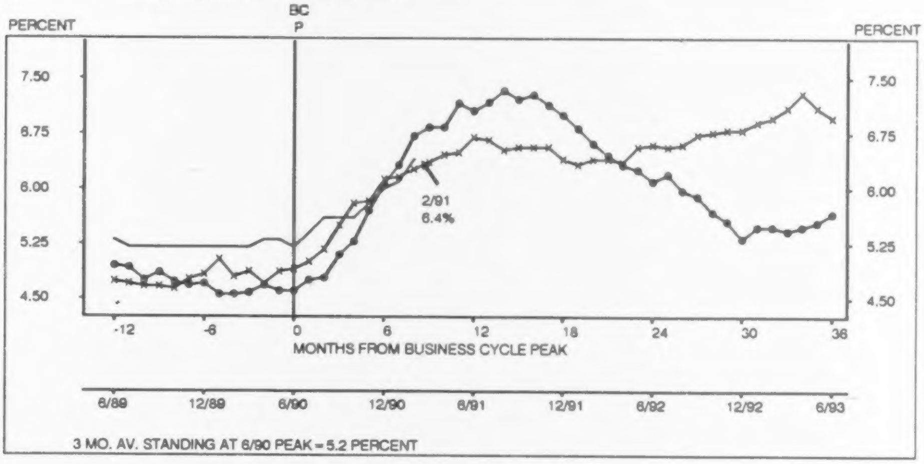
3 MO. AV. STANDING AT 6/90 PEAK = 56.0 % RISING

35. Unemployment Severity Index (CIBCR)



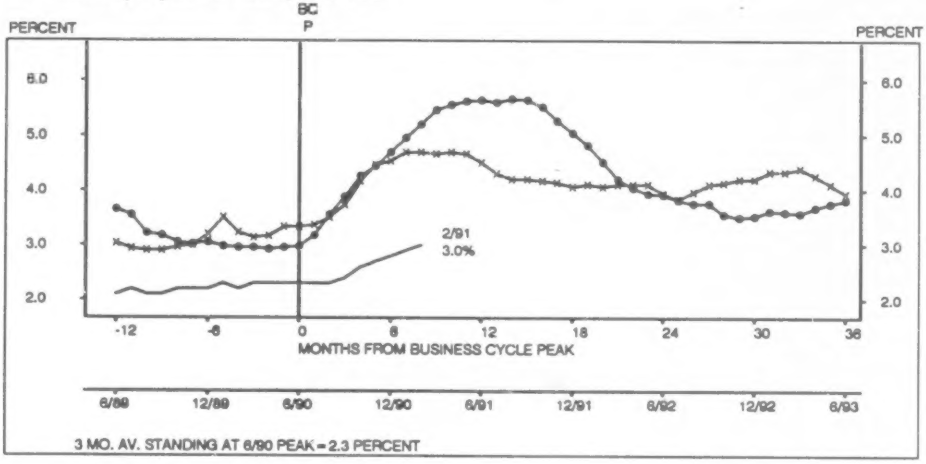
3 MO. AV. STANDING AT 6/90 PEAK = 62.9 WEEKS

36. Unemployment Rate, Total



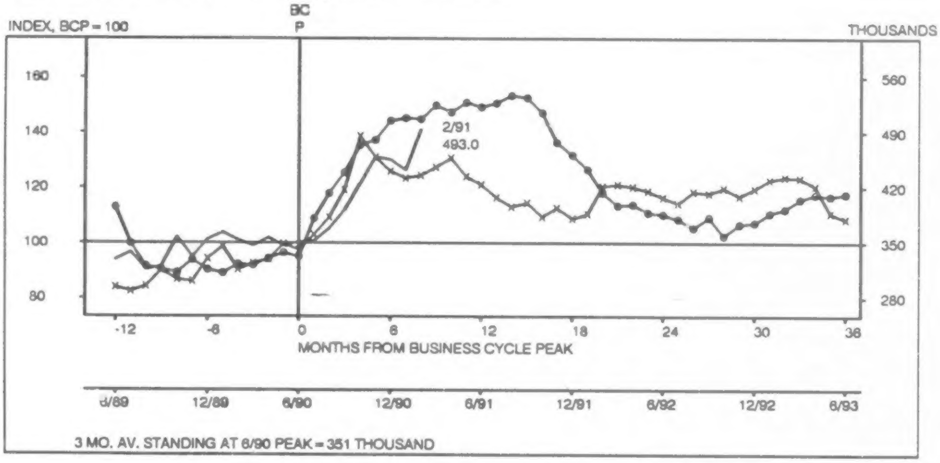
3 MO. AV. STANDING AT 6/90 PEAK = 5.2 PERCENT

37. Unemployment Rate, Insured



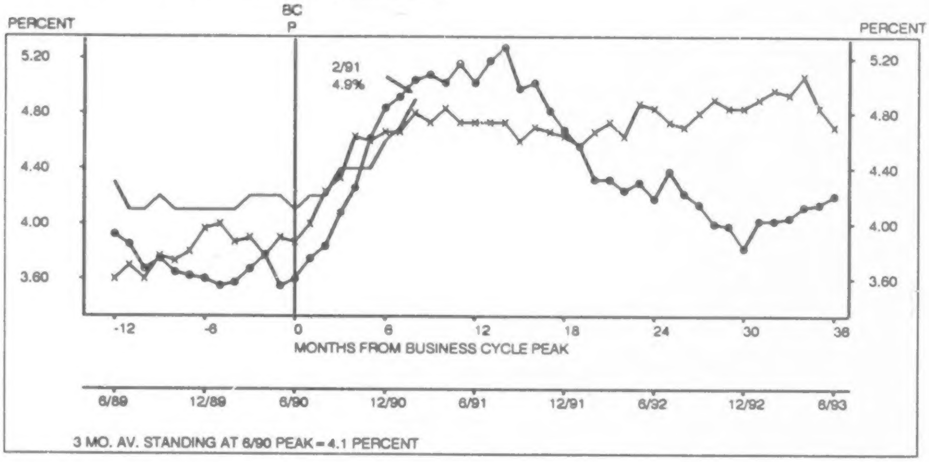
3 MO. AV. STANDING AT 6/90 PEAK = 2.3 PERCENT

38. Initial Claims, Unemployment Insurance



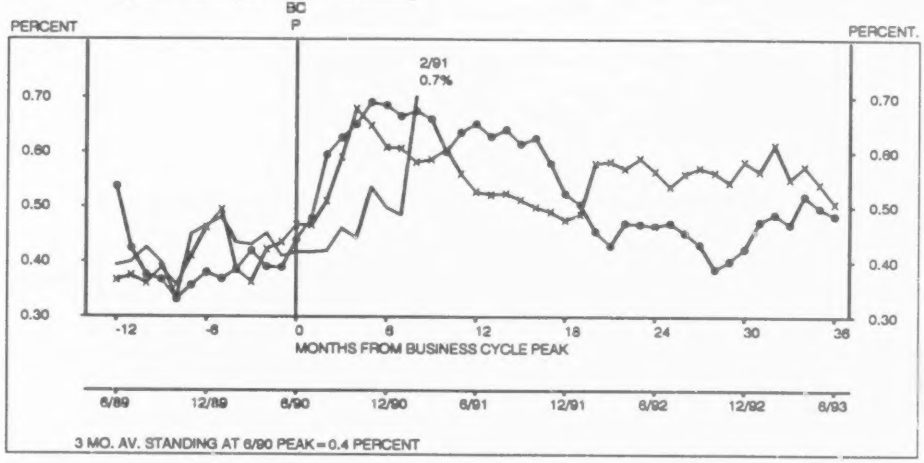
3 MO. AV. STANDING AT 6/90 PEAK = 351 THOUSAND

39. Short-Duration Unemployment Rate



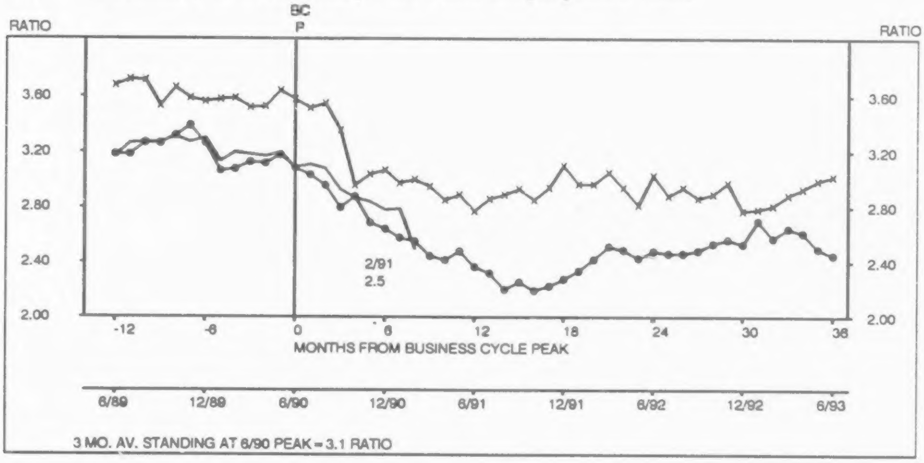
3 MO. AV. STANDING AT 6/90 PEAK = 4.1 PERCENT

40. Layoff Rate (Under 5 Weeks)



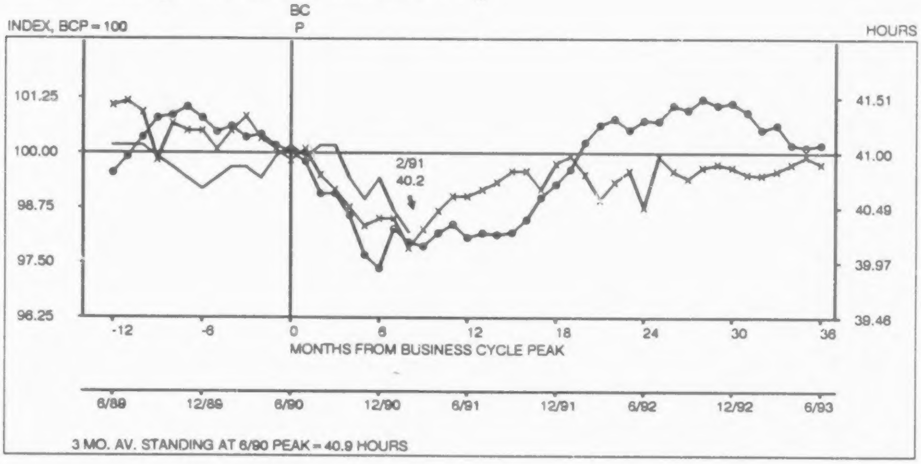
3 MO. AV. STANDING AT 6/90 PEAK = 0.4 PERCENT

41. Voluntary to Involuntary Part-Time Employment Ratio



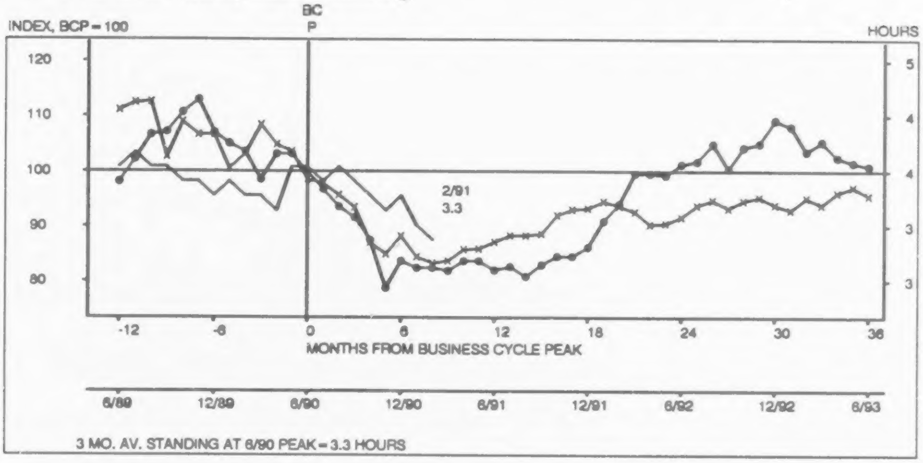
3 MO. AV. STANDING AT 6/90 PEAK = 3.1 RATIO

42. Average Workweek, Manufacturing



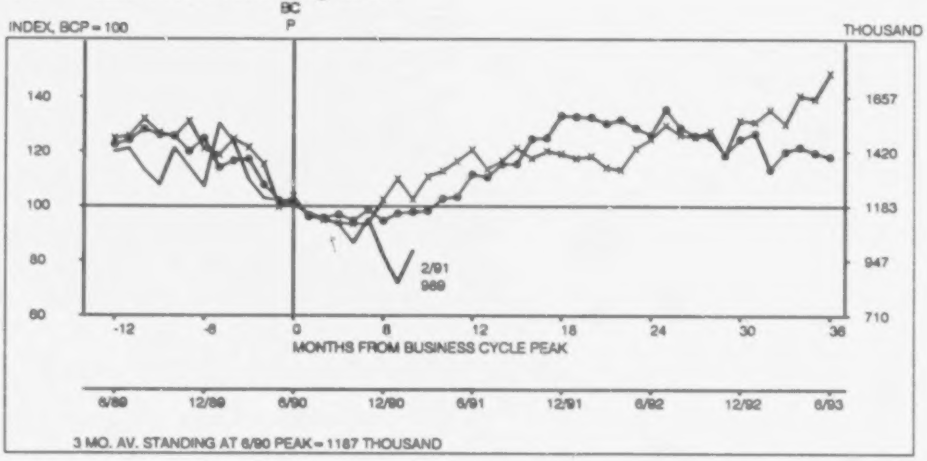
3 MO. AV. STANDING AT 6/90 PEAK = 40.9 HOURS

43. Overtime Hours, Manufacturing



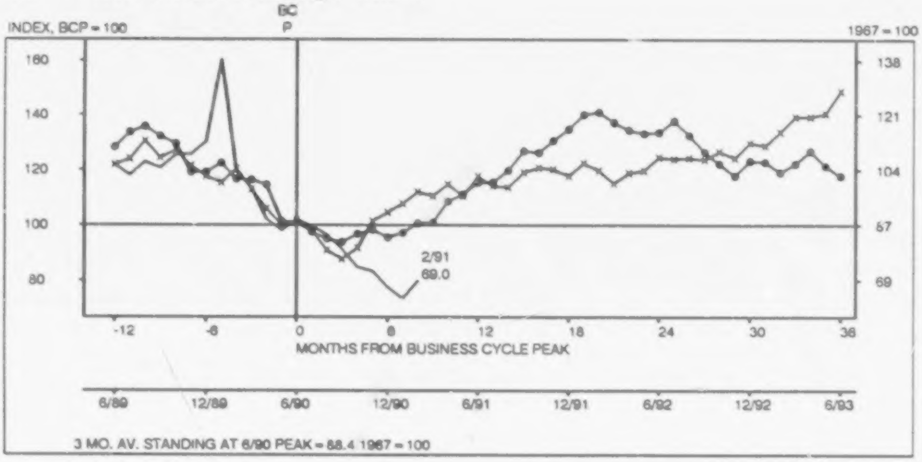
3 MO. AV. STANDING AT 6/90 PEAK = 3.3 HOURS

44. New Private Housing Starts



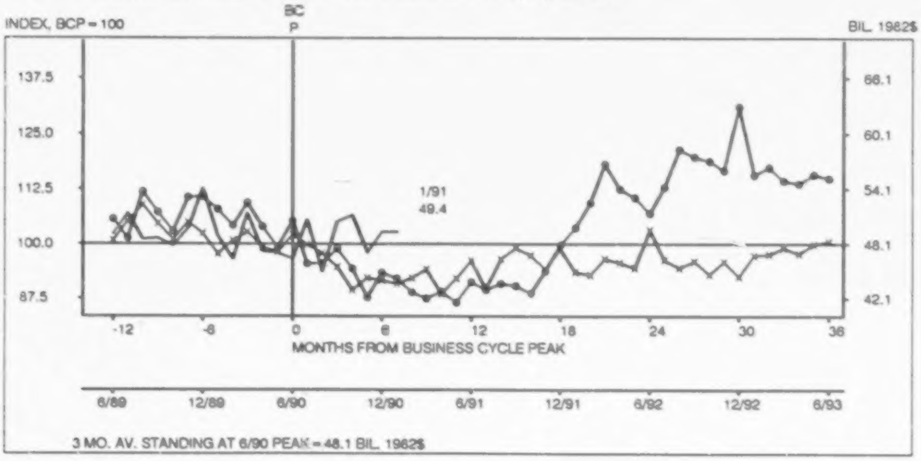
3 MO. AV. STANDING AT 6/90 PEAK = 1187 THOUSAND

45. New Private Housing Permits



3 MO. AV. STANDING AT 6/90 PEAK = 88.4 1967 = 100

46. Contracts and Orders for Plant and Equipment



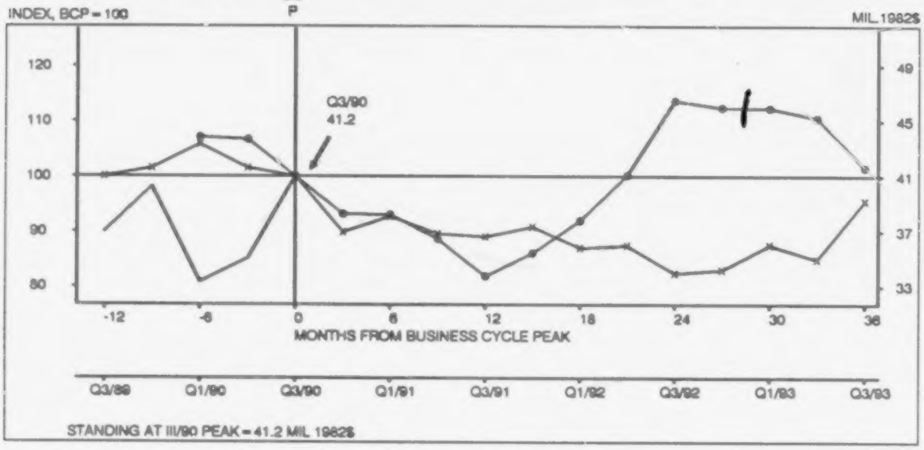
3 MO. AV. STANDING AT 6/90 PEAK = 48.1 BIL. 1982$

The real estate slump is much worse than the average for severe recessions ...

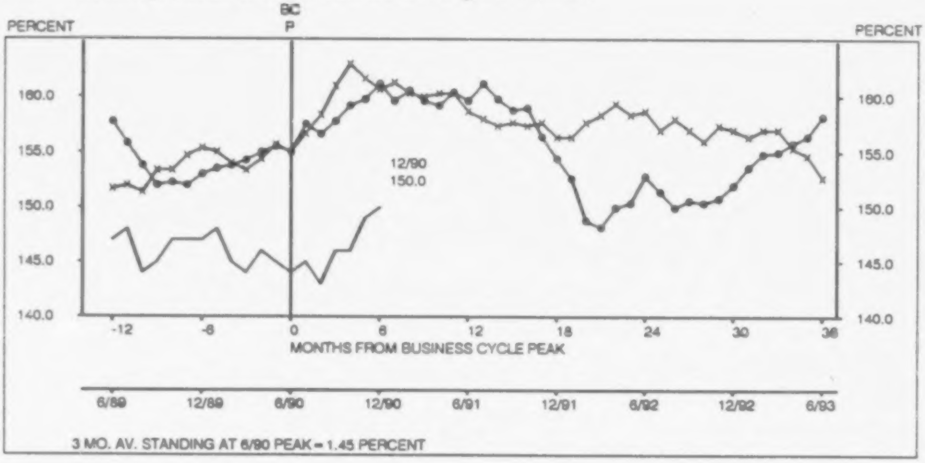
... but orders for capital goods are not doing that badly.

Investment Commitments and Inventories

47. New Capital Appropriations, Manufacturing***

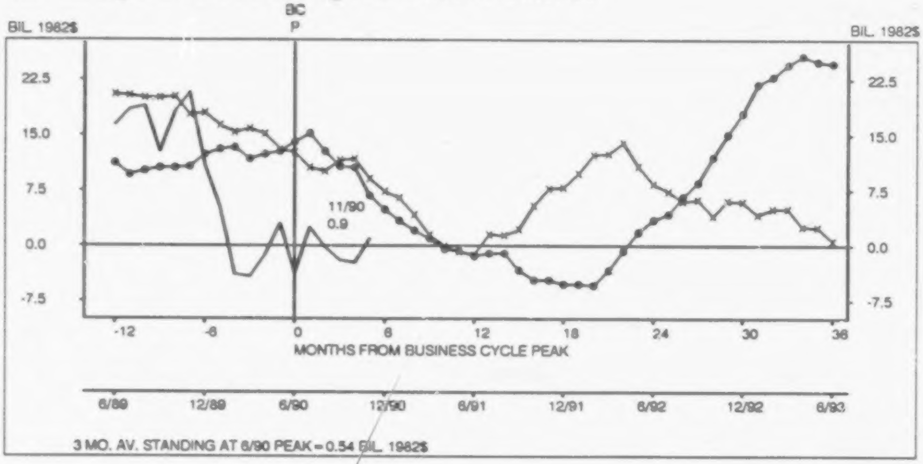


48. Inventory/Sales Ratio, Manufacturing and Trade



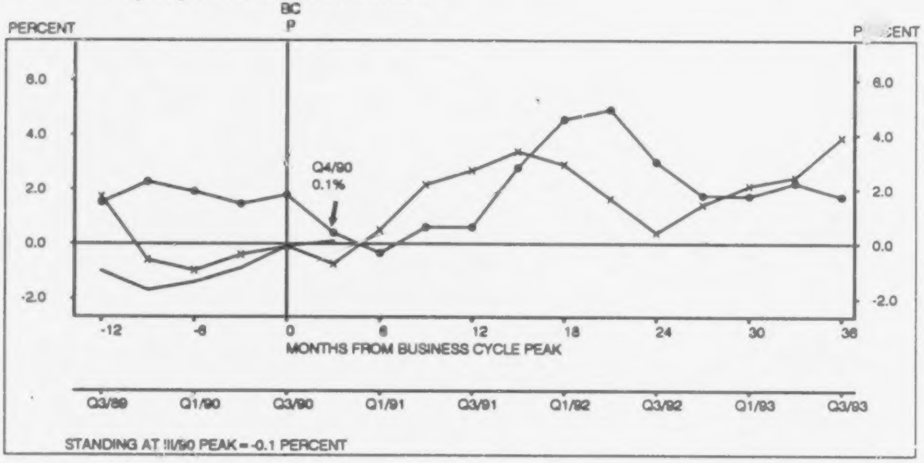
The inventory/sales ratio is above its 25-year low, but is still exceptionally low for this stage of any recession, mild or severe.

49. Change in Manufacturing and Trade Inventories



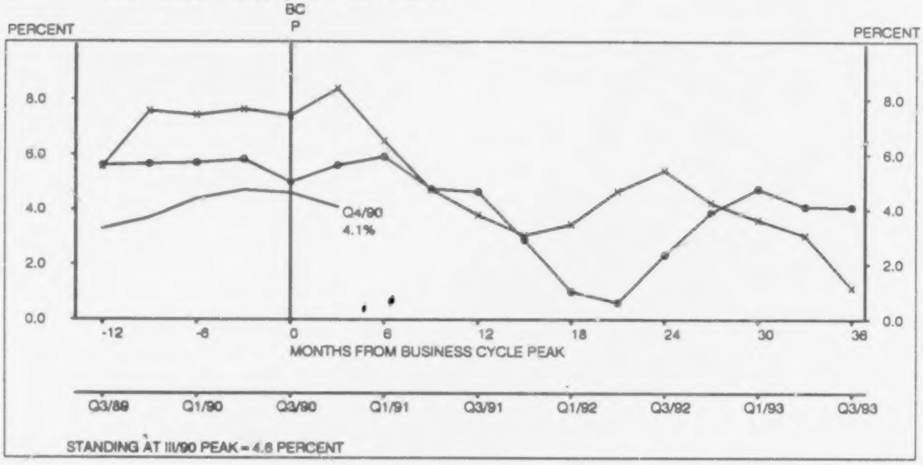
*** 1948-49 recession omitted from average of severe recessions, because series begins later.

50. Output per Hour, Growth Rate



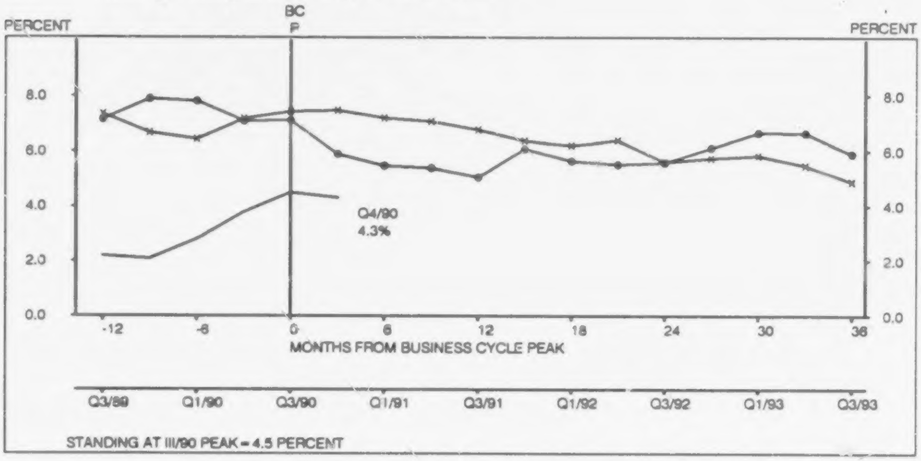
STANDING AT III/90 PEAK = -0.1 PERCENT

51. Unit Labor Costs, Growth Rate



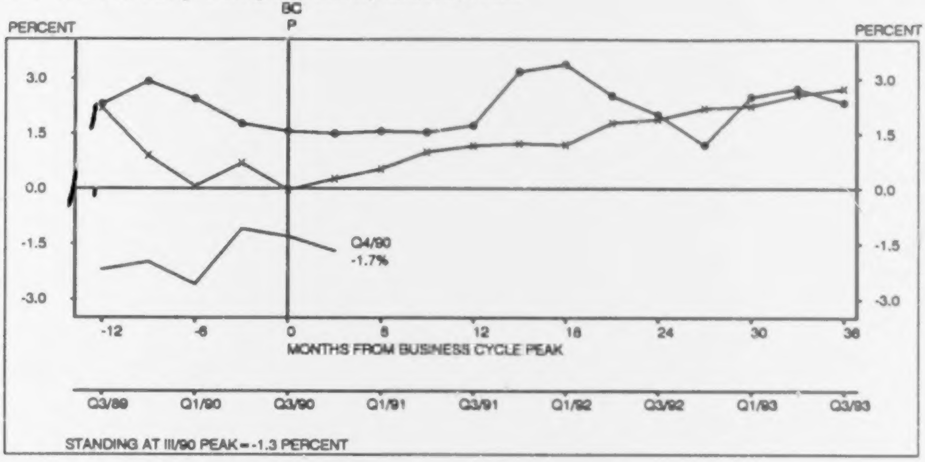
STANDING AT III/90 PEAK = 4.6 PERCENT

52. Hourly Compensation, Growth Rate

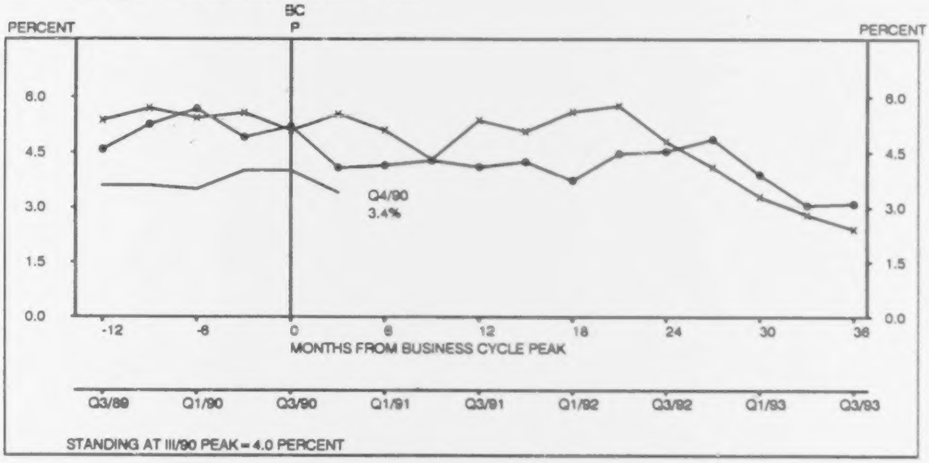


STANDING AT III/90 PEAK = 4.5 PERCENT

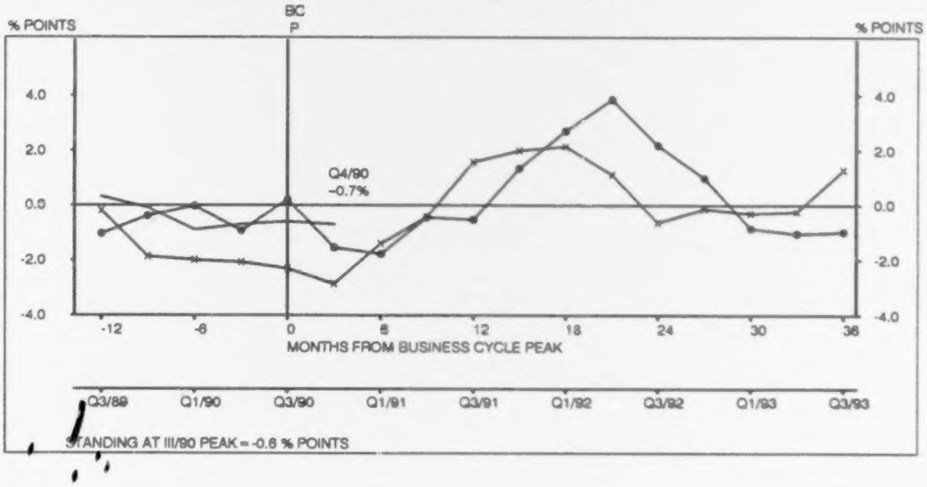
53. Real Hourly Compensation, Growth Rate



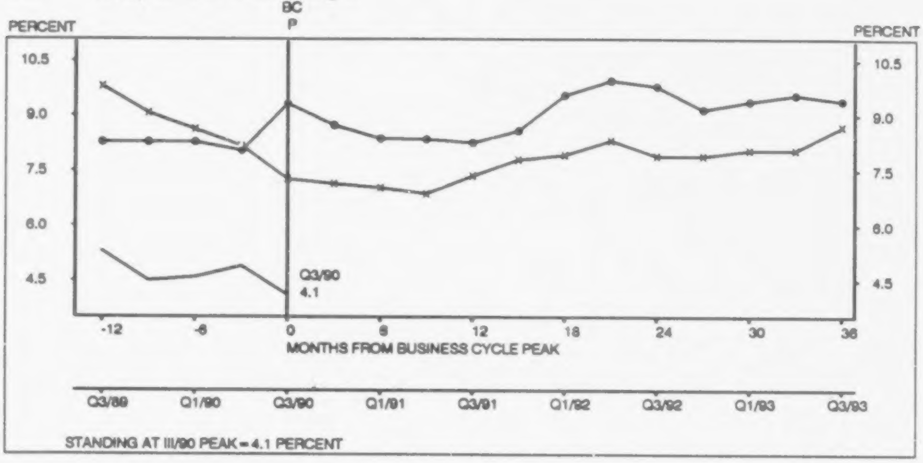
54. Selling Price Index, Growth Rate



55. Growth Rate in Prices Minus Growth Rate in Costs

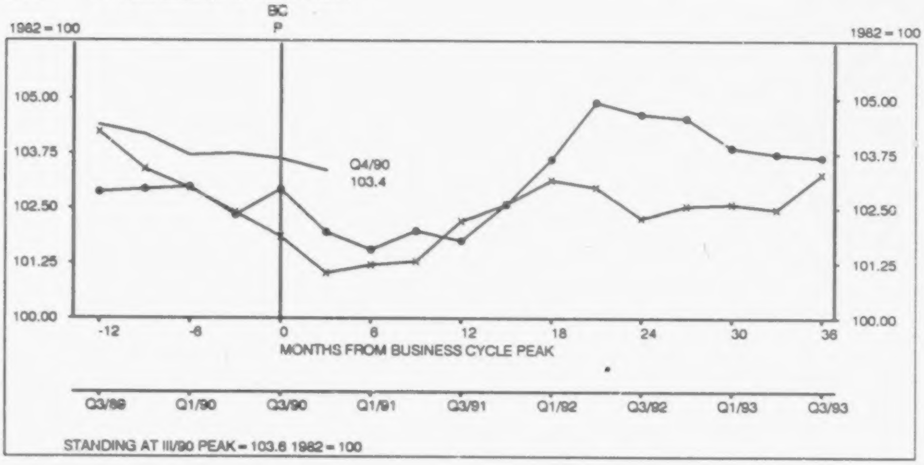


56. Corporate Profit Margin



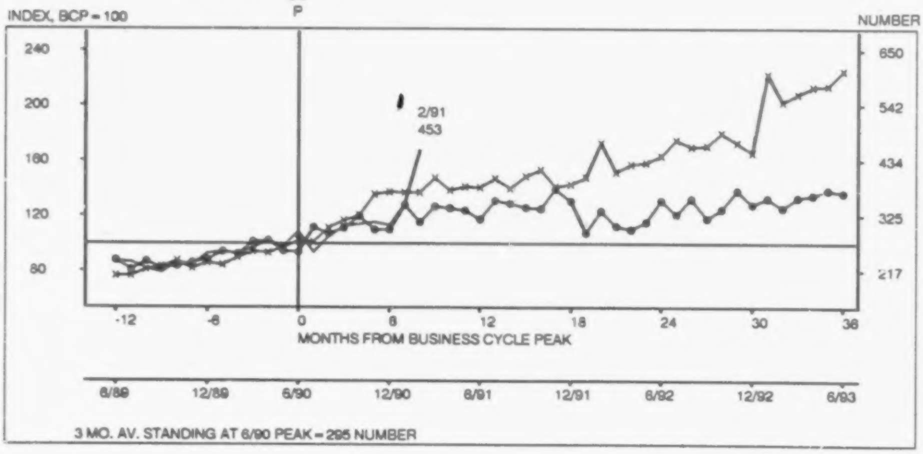
STANDING AT III/90 PEAK = 4.1 PERCENT

57. Price/Labor Cost Ratio



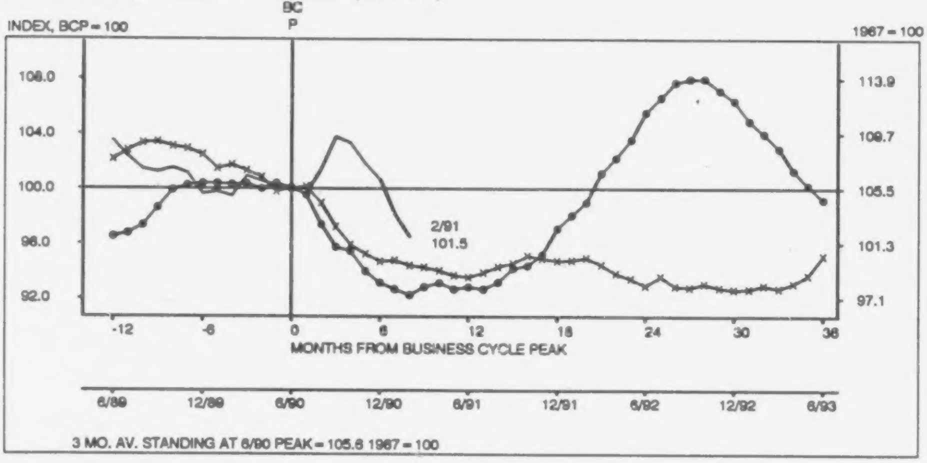
STANDING AT III/90 PEAK = 103.6 1982 = 100

58. Large Business Failures



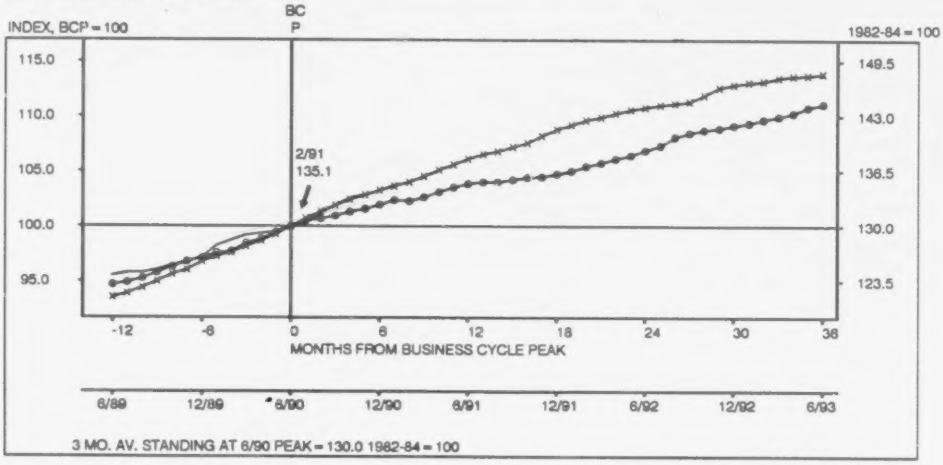
3 MO. AV. STANDING AT 6/90 PEAK = 295 NUMBER

59. Leading Index of Inflation (CIBCR)

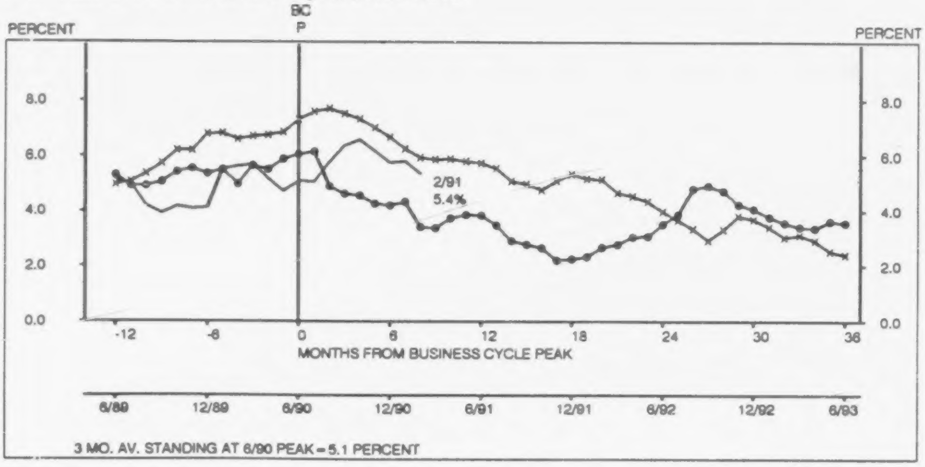


The Leading Inflation Index was moved off track by the oil price rise during the gulf crisis, but is now moving close to the normal recessionary track.

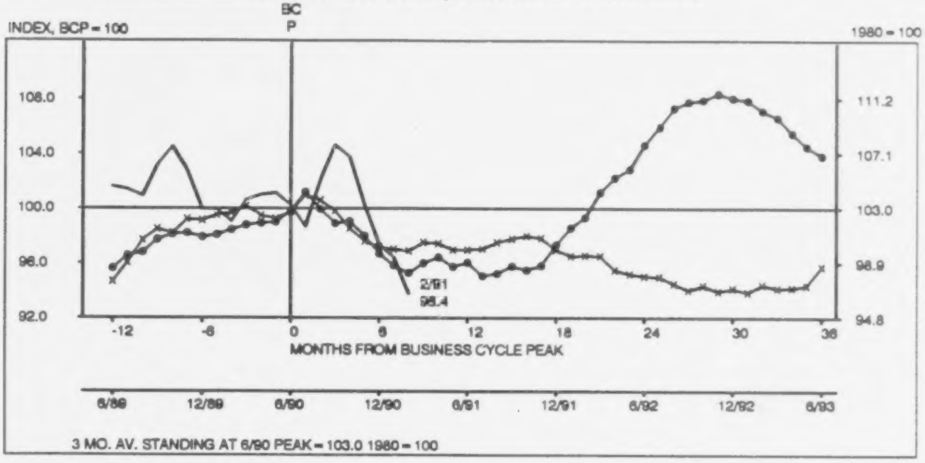
60. Consumer Price Index



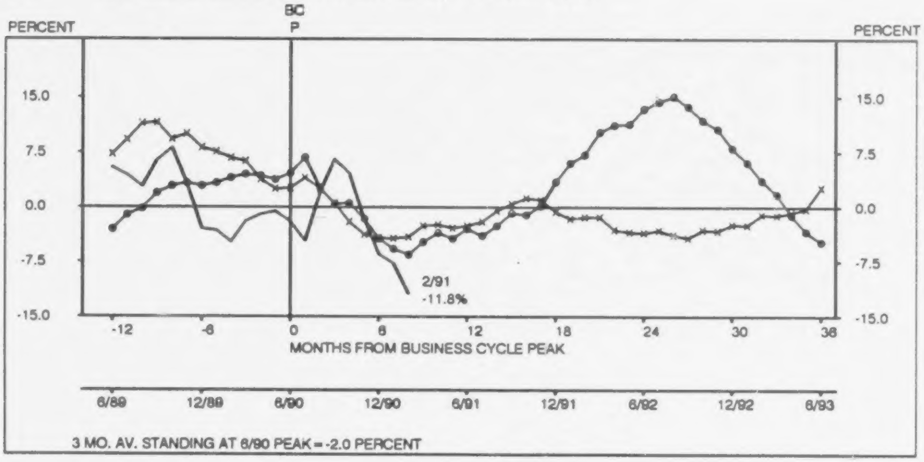
61. Consumer Price Index, Growth Rate



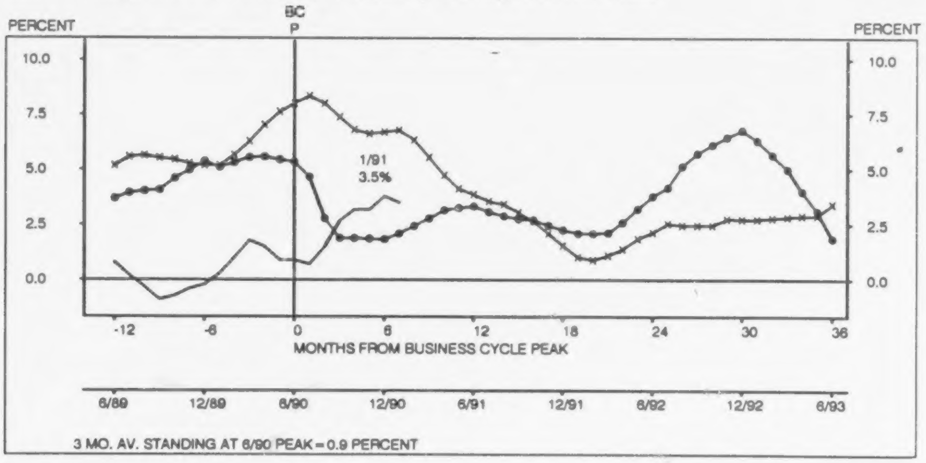
62. Industrial Materials Price Index, Journal of Commerce



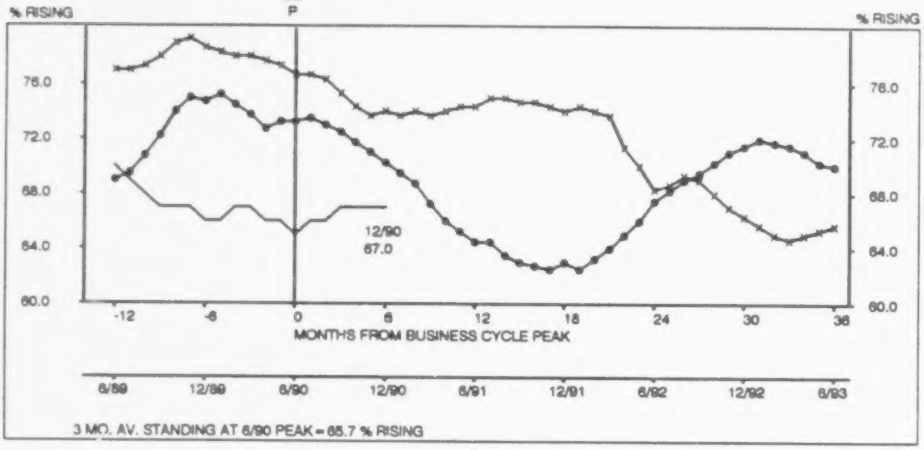
63. Industrial Materials Price Index, Growth Rate



64. Import Price Index (Excluding Fuels), Growth Rate

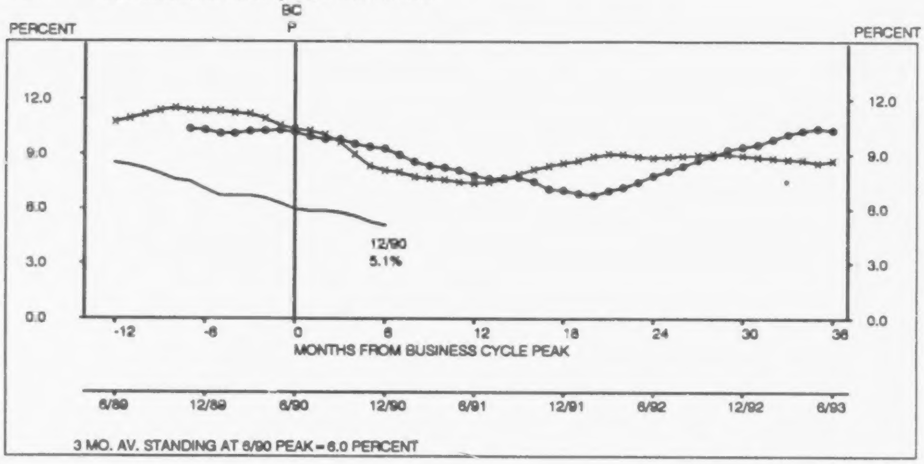


65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)



*** 1948-49 recession omitted from average of severe recessions, because series begins later.

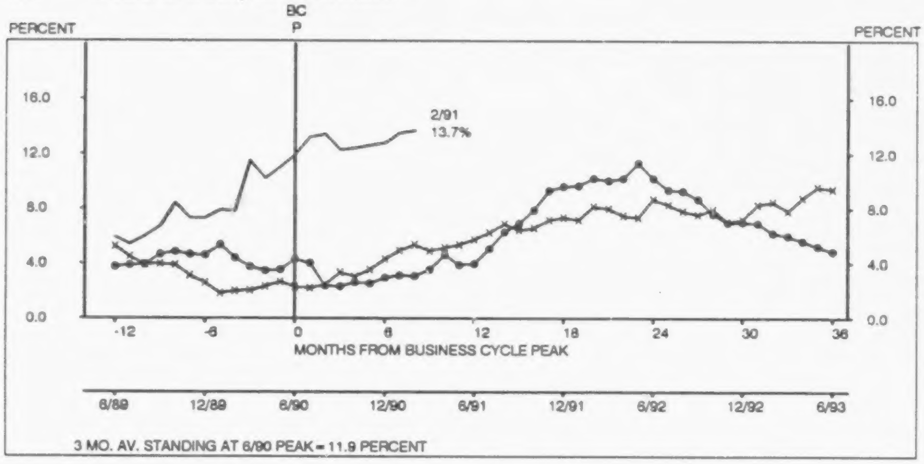
66. Nonfederal Debt, Growth Rate**



3 MO. AV. STANDING AT 6/90 PEAK = 6.0 PERCENT

Business and Consumers, as well as state and local governments, have had to tighten their belts ...

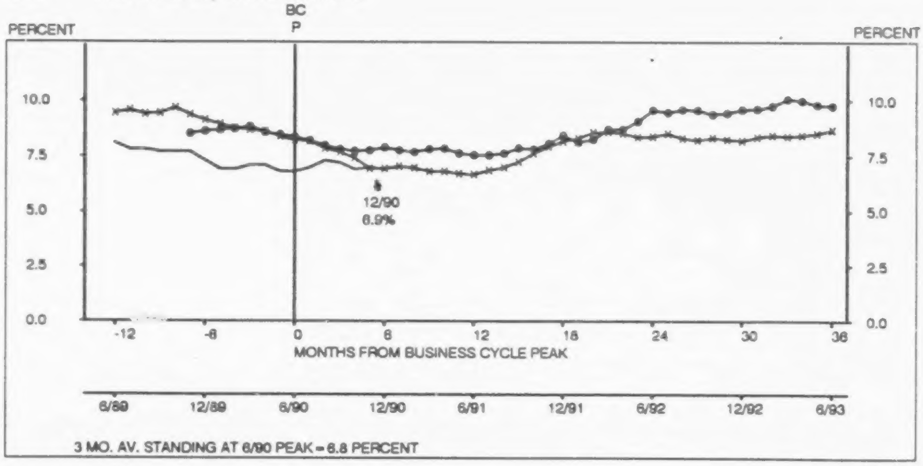
67. Federal Debt, Growth Rate**



3 MO. AV. STANDING AT 6/90 PEAK = 11.9 PERCENT

... but the Federal government's debt continues to increase at a breathtaking pace!

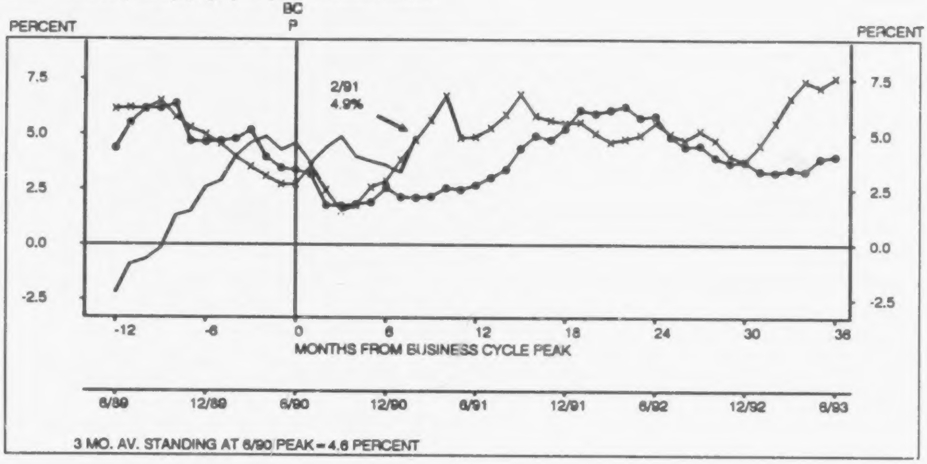
68. Total Debt, Growth Rate



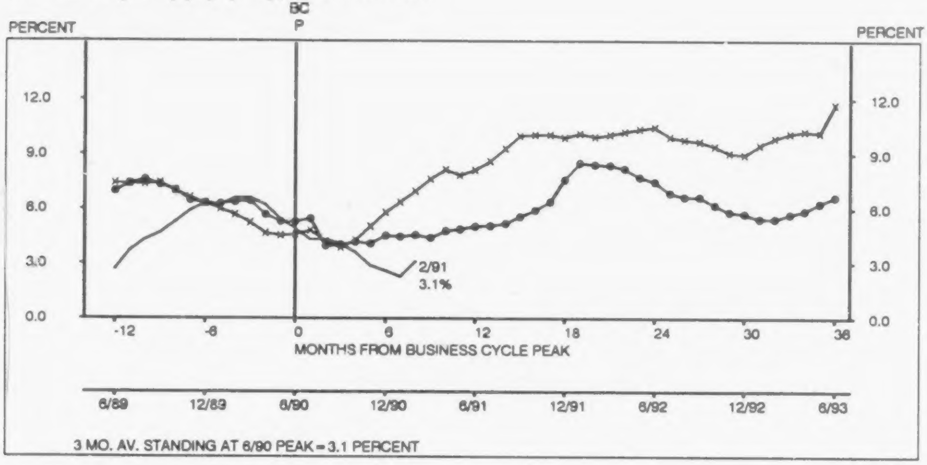
3 MO. AV. STANDING AT 6/90 PEAK = 6.8 PERCENT

** 1948-49 and 1953-59 recessions omitted from average of severe recessions because series begin later

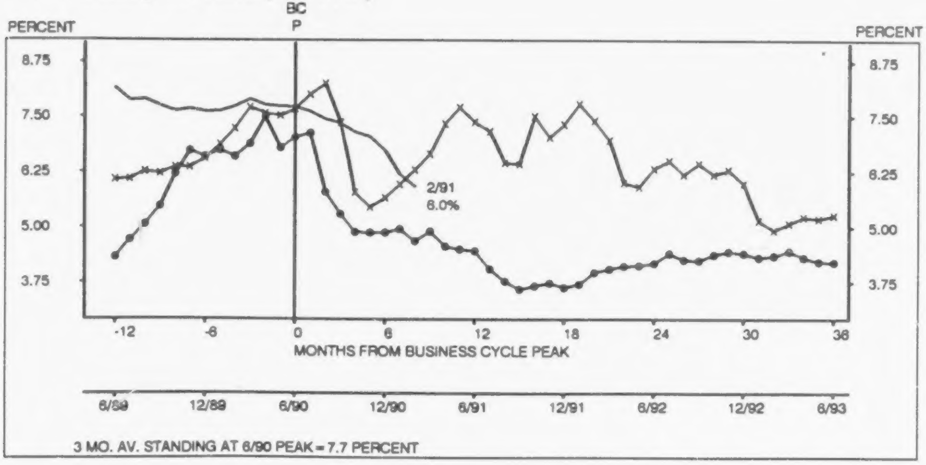
69. Money Supply (M1), Growth Rate



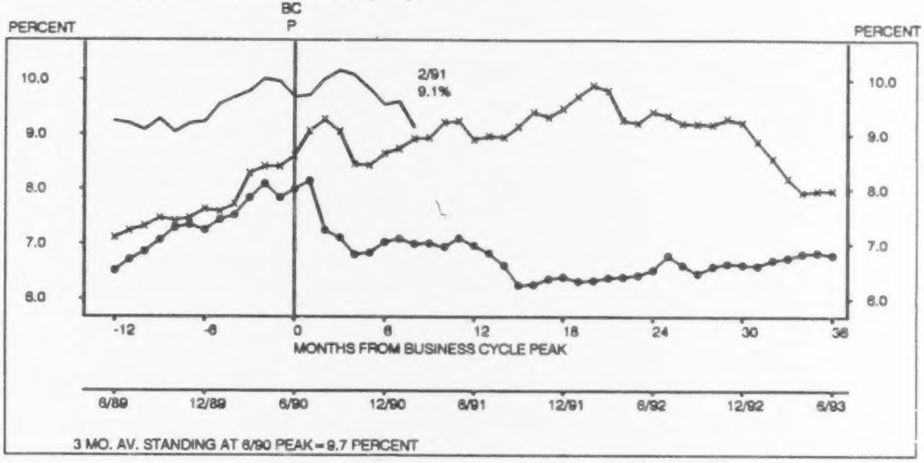
70. Money Supply (M2), Growth Rate



71. Treasury Bill Rate (3-Month)

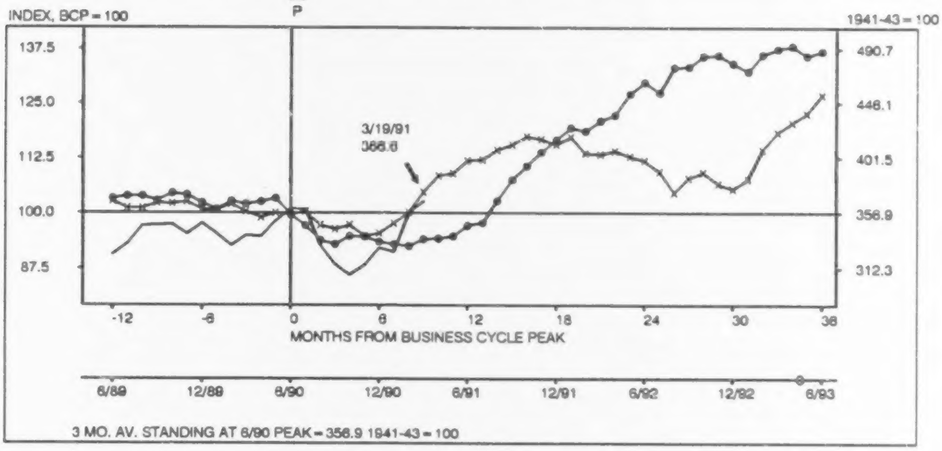


72. Corporate Bond Yields (AA)



3 MO. AV. STANDING AT 6/90 PEAK = 9.7 PERCENT

73. Common Stock Price Index (S&P 500)



3 MO. AV. STANDING AT 6/90 PEAK = 356.9 1941-43 = 100

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Center for International Business Cycle Research
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New York, NY 10027
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ABOUT THIS REPORT

Recession-Recovery Watch is a quarterly report designed to analyze current business cycle trends in terms of previous recession or recovery patterns in the United States.

This report was begun in August 1979, under the direction of Dr. Geoffrey H. Moore, following the methodology for measuring recessions developed at the National Bureau of Economic Research. Although no forecasts are made, the materials in this report do permit glimpses into the future: first, by analyzing the behavior of various leading indicators; second, by indicating what is likely to happen in terms of what did happen in previous recessions and recoveries.

The leading indicators used in this report are relevant to future output and employment because they represent actions taken, like the placing of orders, that will result in future output, or because they reflect factors, like profits, that influence future decisions on output. The record of what happens during the latter stages of business cycles is relevant because of the family resemblance among successive cycles, a resemblance that has its origin in the processes by which business cycles are generated. Every business cycle has its own surprises, partly because of policy actions taken, but many developments are not surprising, having occurred many times before. The historical comparisons contained in this report help one anticipate what is typical and distinguish it from the unusual.

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RECESSION–RECOVERY WATCH...

A Quarterly Report
Designed to Assist in the Evaluation of Current Business Conditions

Published by the **Center for International Business Cycle Research**,
Columbia Business School, Columbia University, New York, NY 10027

Dr. Geoffrey H. Moore
Director

Vol.13, No. 2
May 1991

Summary

One of the burning issues of the day is whether the recession that began in July 1990 is coming to an end. Readers of *Recession-Recovery Watch* will not be surprised to hear that leading indexes usually give some advance warning of this event, and that there are no less than nine such indexes that have demonstrated their capacity to do this. Several of them have turned up moderately this spring, but none have taken off on a strong growth path. If the upturns persist, get stronger and more widespread, the trough of the business cycle might be reached this summer or fall.

That outcome would be consistent with the earlier indications, described in our February issue, that the recession seemed likely to be about average in severity. The declines to date in measures of production, employment, real income and sales, as well as in the coincident indexes based on these measures, place the recession in the mild to average class. Since the length of recessions tends to be correlated with their severity, a recession of average severity might be expected to be of average length. The eight recessions since 1948 have lasted eleven months, on average. An eleven-month recession this time around would run from July 1990 to June 1991.

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Another lesson of past history is that mild recessions are apt to be followed by relatively slow recoveries, especially in the output of goods. Industrial production so far has shown only a modest drop relative to past recessions. If that modesty continues to prevail, the first year of recovery is likely to be modest as well.

Evidence of an Upturn in the Leading Indexes

A considerable number of leading indexes pertaining to the U.S. economy are now available. They have been constructed for various reasons. Some are based upon more promptly available data, so the indexes are more up-to-date. The Business Week Leading Index, the Leading Employment Index, and the NAPM Leading Index are examples. Others have longer lead-times, such as CIBCR's Long Leading Index. Still others are available on a comparable basis for different countries and are helpful in forecasting exports. Since these leading indexes have one thing in common, namely a persistent tendency to lead business cycle turning points, one should expect to see a substantial proportion of them turn down prior to a business cycle peak and turn up prior to a business cycle trough.

Chart A brings together a collection of nine leading indexes and shows their monthly movements since January 1989. Four of them reached their highs prior to the July 1990 business cycle peak that was recently so designated by the Business Cycle Dating Committee of the National Bureau of Economic Research. Two reached their highs in the peak month, one a month later and two three months later. This was not an outstanding performance, and produced a good deal of uncertainty at the time.

However, the main reason these leading indexes performed so poorly is that the downturn was triggered, though not necessarily caused, by a political event – the Gulf crisis. The stage was already set for a recession when the Gulf crisis began, witness the steady decline of the Long-Leading Index from its January 1990 peak and of the Business Week Leading Index from its September 1989 peak in the months leading up to the Gulf crisis. This was indicative of a probable recession starting around the end of 1990 or early 1991, but the leads of these and the other shorter-leading indexes were truncated by the Gulf crisis. Also, the unusual phenomenon of a supply-driven oil price rise in the early months of the recession boosted the ratio of price to unit labor cost, a component of the Long-Leading Index that is normally a good measure of profitability. This caused the Long-Leading Index to rise again early in the recession to a false peak. All this made for some anomalous behavior of the leading indexes around the last peak.

In recent months, however, some of the leading indexes have been showing signs of an upturn, notably the CIBCR Long Leading Index, and the Commerce Department's (BEA) Leading Index. The Business Week Leading Index took a sharp jump at the end of December, but this was because one of its components, real estate loans of banks, was affected by the banks taking over loans of thrifts. Some of the other leaders have reached lows prior to the latest month but have either not risen for more than a month or have advanced very little. Hence the evidence of an upturn is sketchy.

The signal system developed by CIBCR to identify recoveries (Table A) has not produced an initial signal yet. The long leading index smoothed growth rate must exceed 1.0%

CHART A. NINE LEADING INDEXES, 1989-91

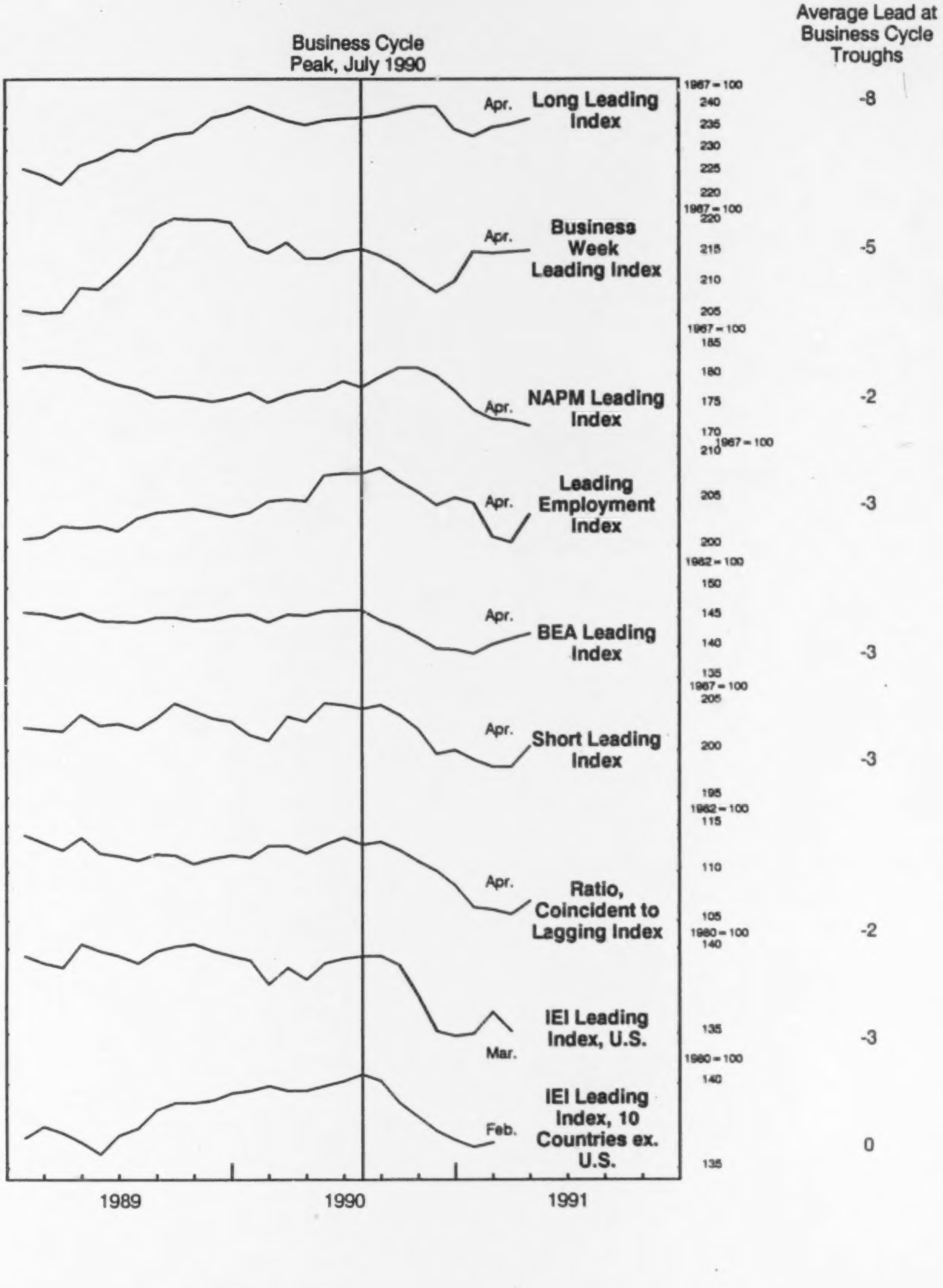


TABLE A.
FOUR SIGNALS OF RECOVERY: LEAD-LAG RECORD, 1949-90

Business Cycle Trough	LLT1 Signal (LL>1.0)	T1 Signal (L>1.0. C<1.0)	T2 Signal (L>4.3. C>1.0)	P3 Signal (L>4.3. C>4.3)	Lead(-) or Lag(+). in Months. at Business Cycle Troughs			
					LLT1	T1	T2	T3
10/49	1/49	8/49	1/50	3/50	-9	-2	+3	+5
none	2/52	6/52*	6/52**	8/52	-	-	-	-
5/54	2/54	5/54	11/54	12/54	-4	0	+6	+7
4/58	4/58	6/58	10/58	11/58	0	+2	+6	+7
2/61	7/60	1/61	6/61	8/61	-7	-1	+4	+6
none	-	-	12/62**	5/63	-	-	-	-
none	2/67	6/67*	7/67**	11/67	-	-	-	-
11/70	9/70	12/70	5/71	12/71	-2	+1	+6	+13
3/75	3/75	6/75	10/75	1/76	0	+3	+7	+10
7/80	8/80	9/80	12/80	-	+1	+2	+5	-
11/82	2/82	9/82	5/83	6/83	-9	-2	+6	+7
none	-	-	7/85**		-	-	-	-
Mean					-4	0	+5	+8
Standard Deviation					4	2	1	3

This table is a revision of Table 4-7, p. 50, in Moore, Geoffrey H., *Business Cycles, Inflation and Forecasting*, 1983.

*P2 signal canceled (L > 1.0 or C > 4.3)

**P1 signal canceled (L > 4.3)

Center for International Business Cycle Research, Columbia University, May 1991.

to set off the first signal. The latest rate, for April 1991, is 0.2%, so it doesn't have far to go. The second signal requires that the growth rate in the BEA leading index exceed 1.0%. Here the latest rate, also for April, is -0.7%. The first signal has led business cycle troughs by 4 months, on average, while the second signal has been coincident with the troughs, on average. Further progress on the leading indicator front may generate signals of an upturn in the economy this summer or autumn.

Rates of Recovery Depend on Depth of Recession

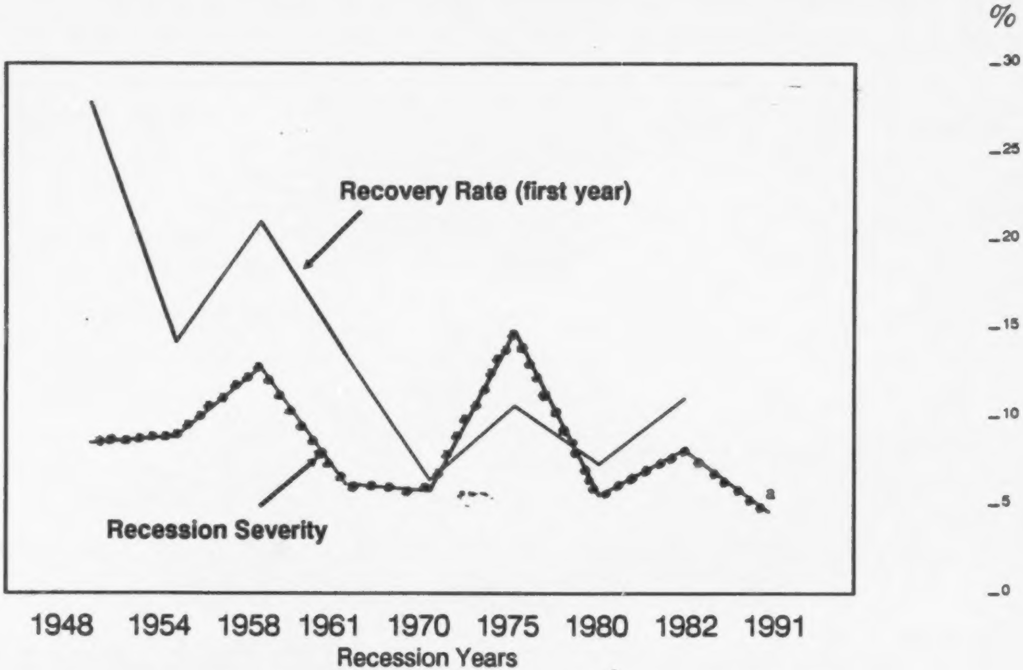
For those faithful readers of *Recession-Recovery Watch* who happen to have a long memory, the following may seem repetitious. It is taken from the February 1983 issue, which appeared shortly after the recovery from the 1981-82 recession got underway.

> ### Great Recoveries from Great Recessions Grow
>
> One of the rules of business cycle history is that deeper than average recessions generate greater than average corrective forces. It is a rule that applies especially to the volume of output and particularly to the output of goods (rather than services). Also, it applies to the initial rate of recovery, say for the first year or so.
>
> The relationship can be seen in the behavior of the index of industrial production and in the goods output component of GNP. Goods output constituted 45% of total GNP in 1982, not a large enough fraction to make total GNP follow the rule consistently. Nevertheless it is one factor making for a substantial rate of recovery in 1983, since the recession in goods output and in industrial production has been somewhat deeper than average.

The 1983 report then supplied some figures on the severity of past recessions and the rate of growth in the first year of recovery. We have put a similar record together in Chart B, showing the declines in industrial production during successive recessions since 1948 and the subsequent growth rate in the first year of recovery. The relationship is not very close, partly because there has been a declining trend in the recovery rates of industrial production. But deeper recessions do tend to promote steeper recoveries.

As for the current situation, the decline in industrial production through March 1991 has been relatively modest, namely, about 5 percent. This in itself might lead one to expect a recovery rate of 10% or so in the first year. But if the decline in industrial production becomes more serious, the rate of recovery thereafter might get above 10%.

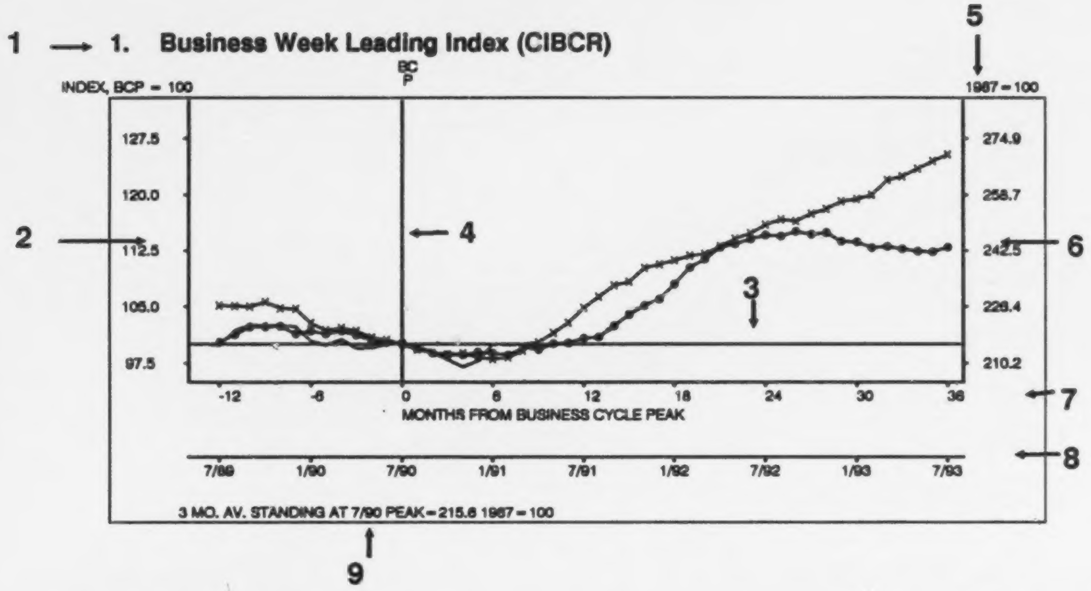
CHART B.
INDUSTRIAL PRODUCTION IN RECESSION AND RECOVERY



[a] Decline from July 1990 to March 1991 (4.6%).

Note: Percent changes are from business cycle peak month to business cycle trough month, and from trough month to twelve months later.

HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the *actual level* rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in *both* current and past recessions as a percentage of business cycle peak (BCP) standings. This is the common vertical scale along which the recessions are compared.

3 HORIZONTAL LINE shows levels at reference peak (100) for current and past recessions.

4 VERTICAL LINE represents reference peak dates for current and past recessions which are all aligned so that the business cycle peak (BCP) dates are positioned on the vertical line; i.e., the peaks of past recessions are aligned with the current peak to facilitate comparison.

5 UNITS for right-hand scale refer *only* to the *current* peak.

6 RIGHT-HAND SCALE refers *only* to the *current* recession. It is a transformation of the left-hand scale to show the current recession in original units rather than with peak standing at 100.

7 HORIZONTAL SCALE measures months from business cycle peak (BCP) for *both* the current and past recessions. This is the common time scale along which the recessions are compared.

8 ACTUAL DATES refer only to the current recession.

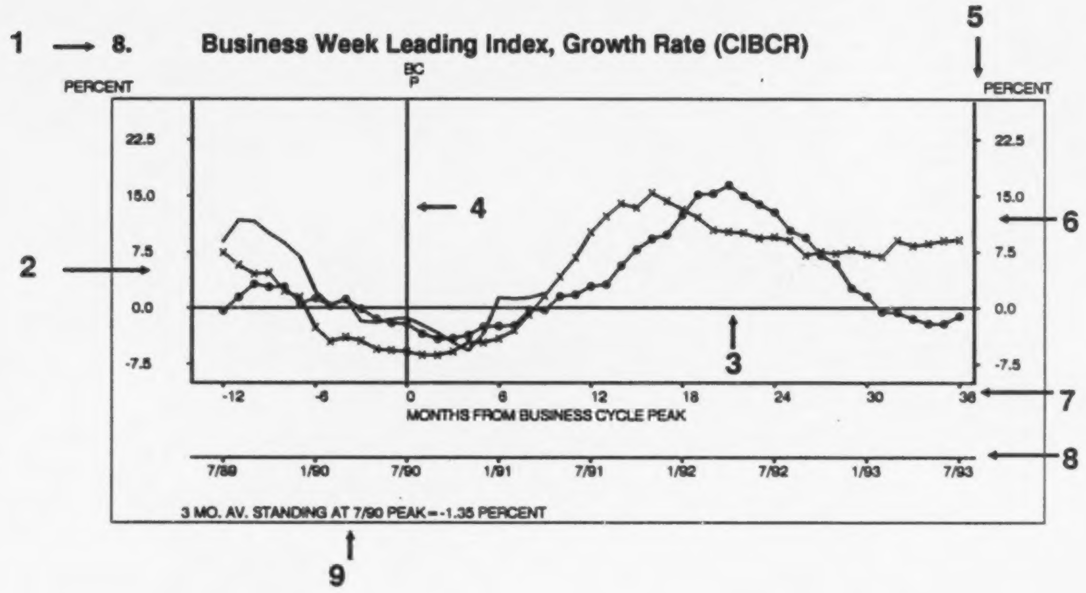
9 STANDING AT THE PEAK is the level at which the *current* recession began, and is calculated as the 3-month average centered on the peak month.

●-●-●-●-●-●-● LINE WITH CIRCLES indicates average over 5 severe recessions (1948-49, 1953-54 1957-58, 1973-75, and 1981-82).

×-×-×-×-×-×-× LINE WITH CROSSES indicates average of over 2 mild recessions (1960-61 and 1969-70).

———— SOLID LINE indicates the current recession, assumed to have begun in June 1990, or Q3, 1990.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed *growth rate*, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for *both* current and past recessions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past recessions.

4 VERTICAL LINE represents reference peak dates for current and past recessions, which are aligned so that the business cycle peak (BCP) dates are positioned on the vertical line; i.e., the peaks of past recessions are aligned with the current peak to facilitate comparison.

5 UNITS for both scales in percent refer to growth rates for *both* current and past recessions.

6 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for *both* current and past recessions.

9 HORIZONTAL SCALE measures months from business cycle peak (BCP) for *both* current and past recessions. This is the common time scale along which the recessions are compared.

10 ACTUAL DATES refer *only* to the *current* recession.

11 STANDING AT THE PEAK is the growth rate at the time the current recession began, and is calculated as the 3-month average centered on the peak month.

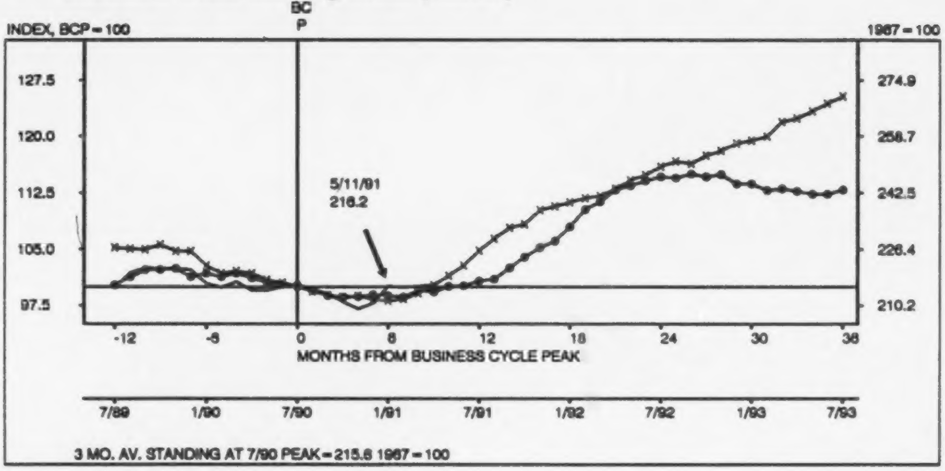
●●●●●●●● LINE WITH CIRCLES indicates average over 5 severe recessions (1948-49, 1953-54 1957-58, 1973-75, and 1981-82).

××××××××× LINE WITH CROSSES indicates average of over 2 mild recessions(1960-61, 1969-70).

———————— SOLID LINE indicates the current recession, assumed to have begun in June 1990, or Q3, 1990.

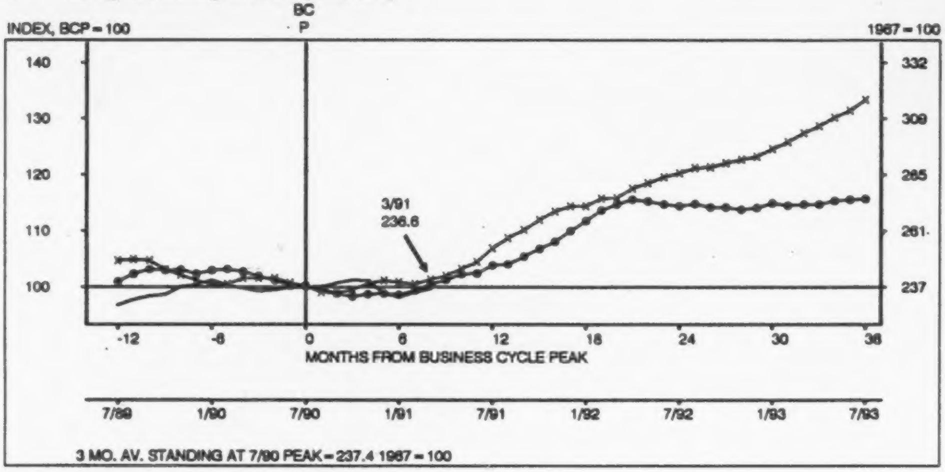
Composite Indexes

1. Business Week Leading Index (CIBCR)



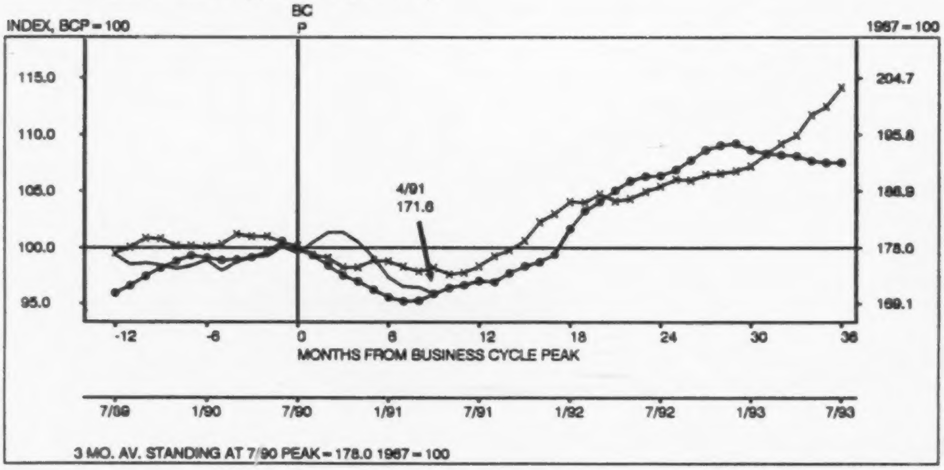
3 MO. AV. STANDING AT 7/90 PEAK=215.6 1967=100

2. Long-Leading Index (CIBCR)



3 MO. AV. STANDING AT 7/90 PEAK=237.4 1967=100

3. N.A.P.M. Leading Index (CIBCR)

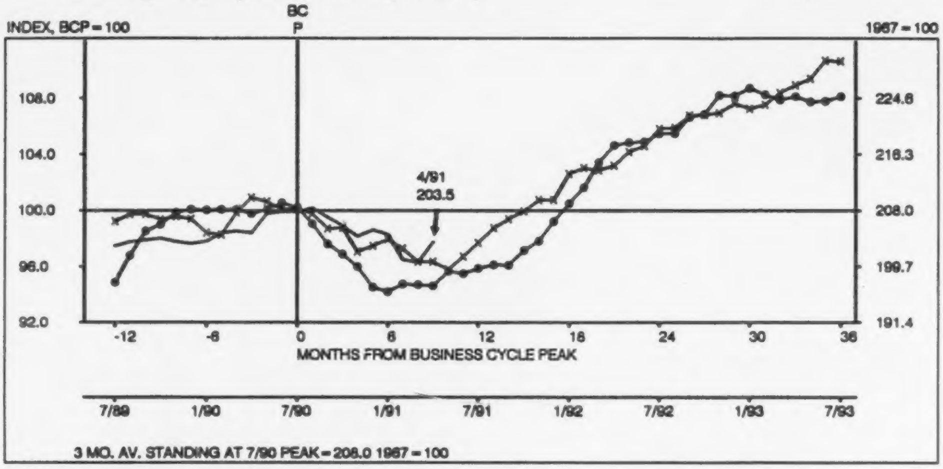


3 MO. AV. STANDING AT 7/90 PEAK=178.0 1967=100

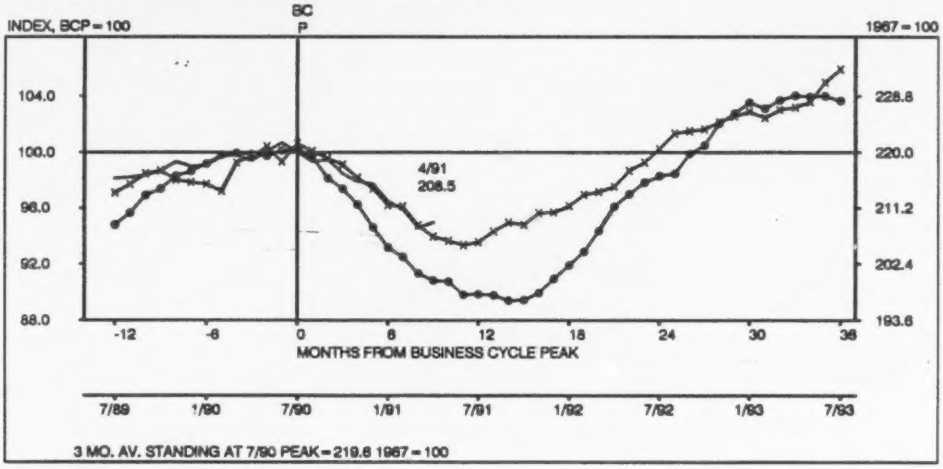
CIBCR's Long-Leading and Business Week Leading Indexes are inching up, close to their averages in past recessions ...

... but the NAPM Leading Index, which has a short lead over swings in manufacturing activity, is following the average trend for sharp recessions, despite its rise to 171.7 in May.

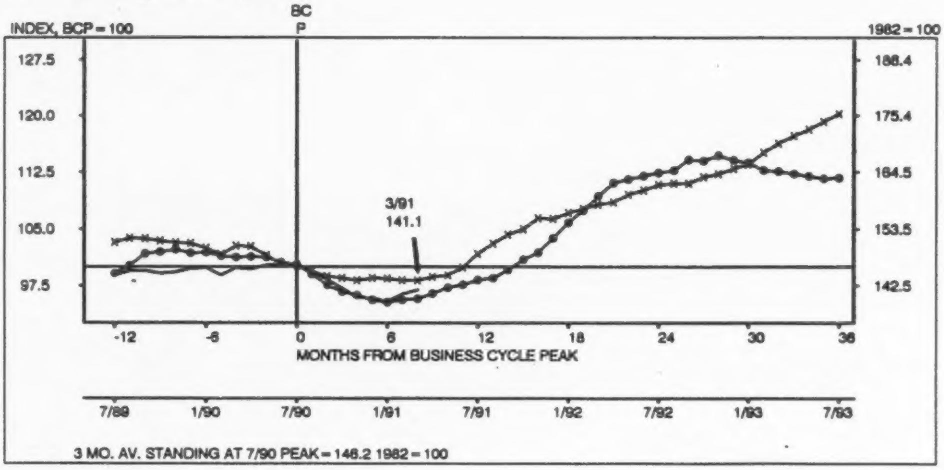
4. Leading Employment Index (CIBCR)



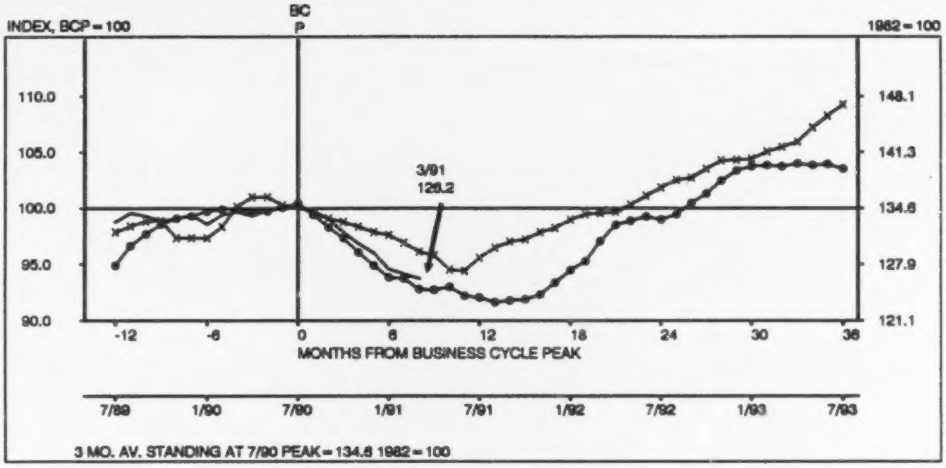
5. Coincident Employment Index (CIBCR)



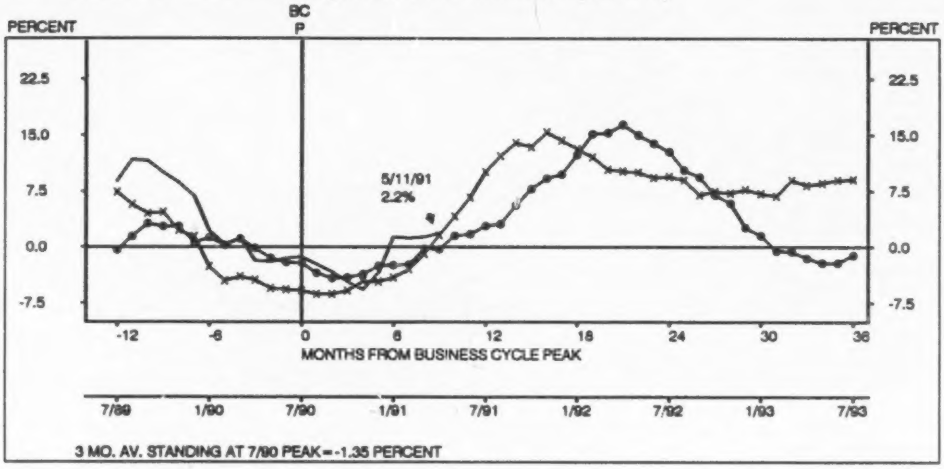
6. Leading Index (BEA)



7. Coincident Index (BEA)

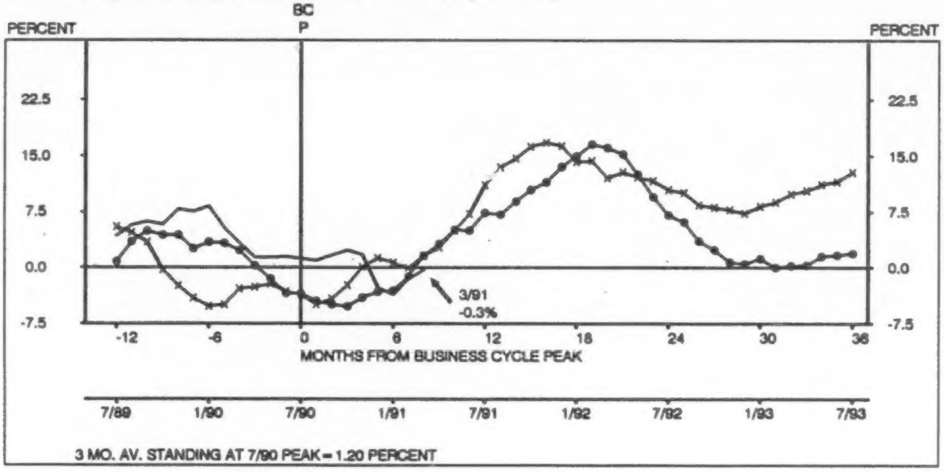


8. Business Week Leading Index, Growth Rate (CIBCR)



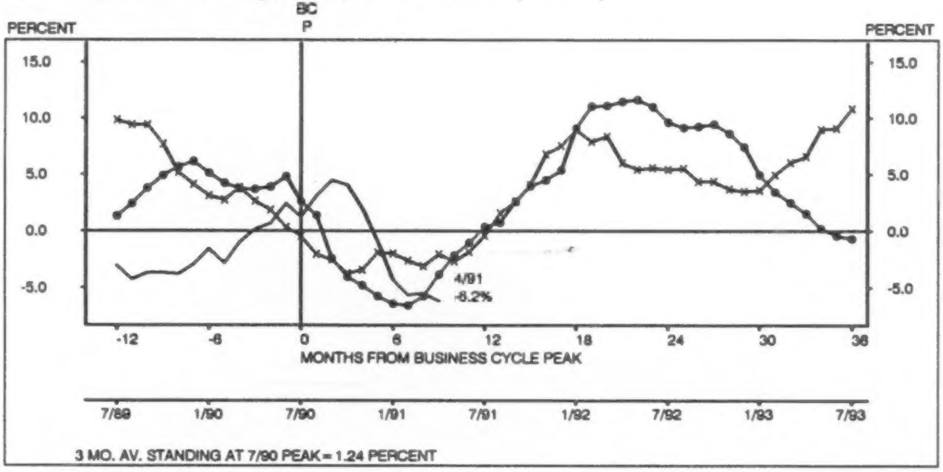
3 MO. AV. STANDING AT 7/90 PEAK=-1.35 PERCENT

9. Long-Leading Index, Growth Rate (CIBCR)



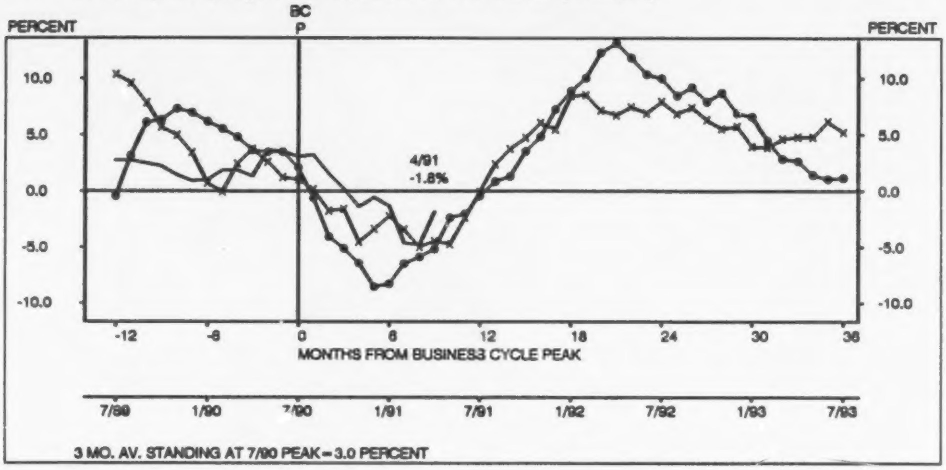
3 MO. AV. STANDING AT 7/90 PEAK=1.20 PERCENT

10. N.A.P.M. Leading Index, Growth Rate (CIBCR)



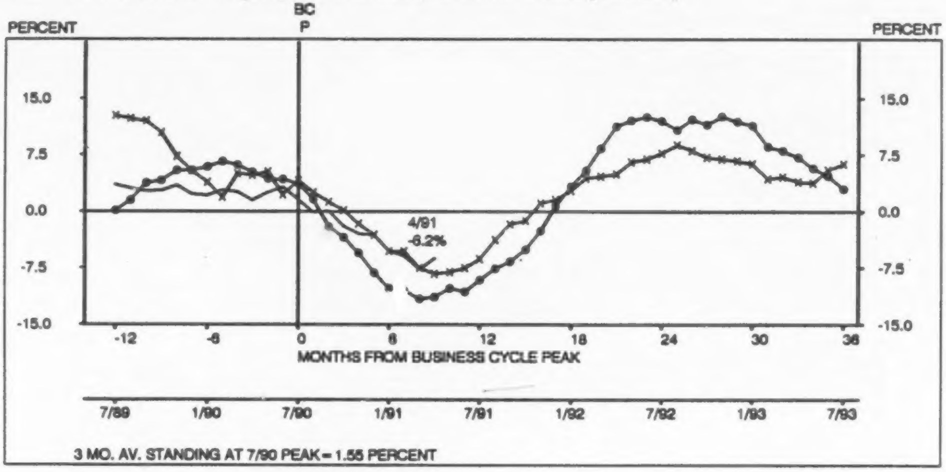
3 MO. AV. STANDING AT 7/90 PEAK=1.24 PERCENT

11. Leading Employment Index, Growth Rate (CIBCR)



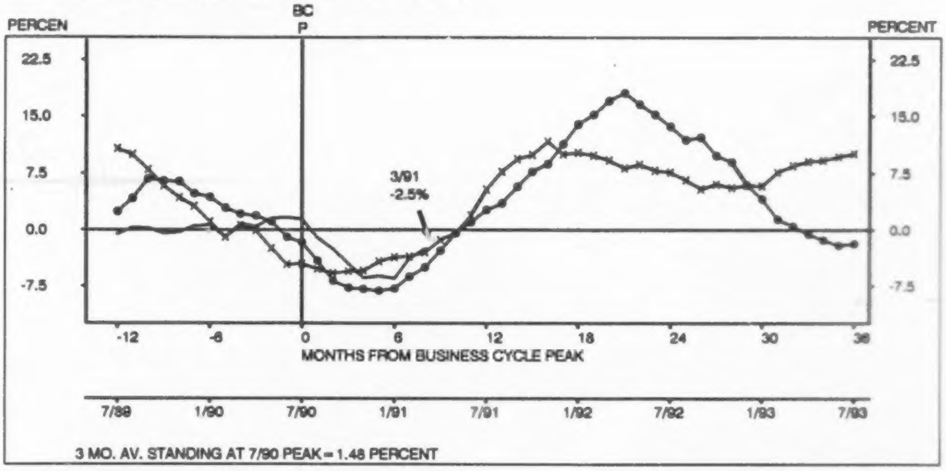
3 MO. AV. STANDING AT 7/90 PEAK = 3.0 PERCENT

12. Coincident Employment Index, Growth Rate (CIBCR)



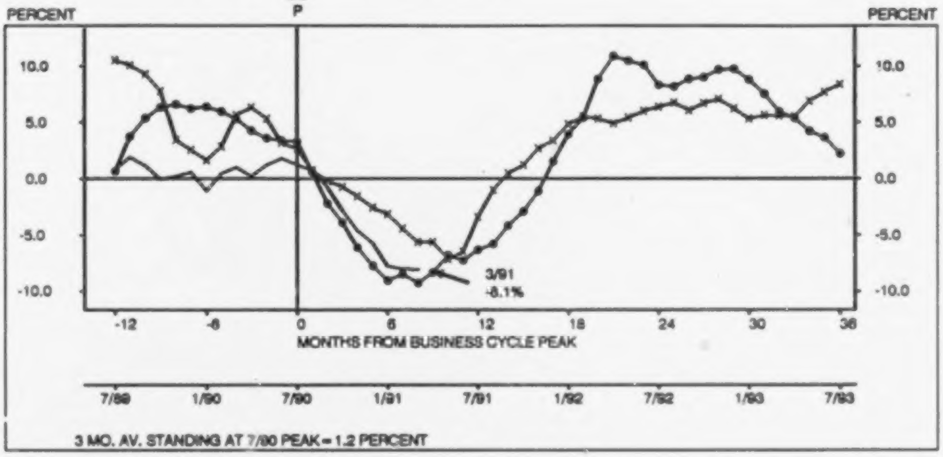
3 MO. AV. STANDING AT 7/90 PEAK = 1.55 PERCENT

13. Leading Index, Growth Rate (BEA)



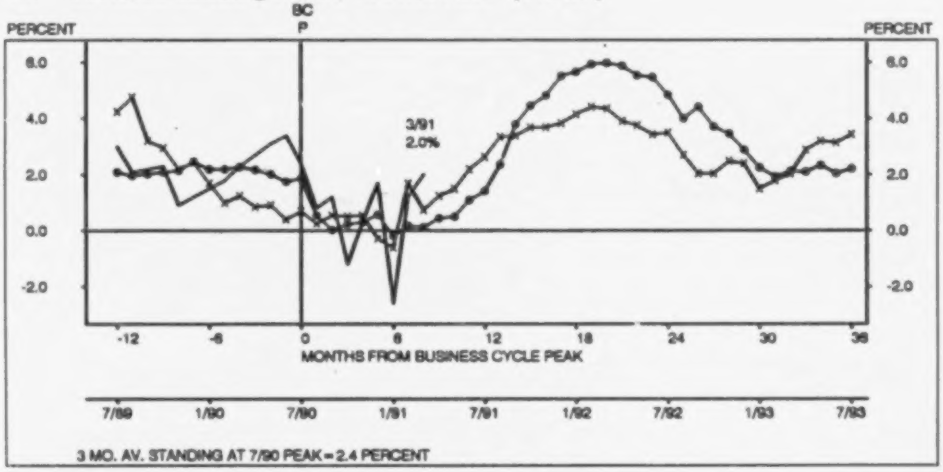
3 MO. AV. STANDING AT 7/90 PEAK = 1.48 PERCENT

14. Coincident Index, Growth Rate (BEA)



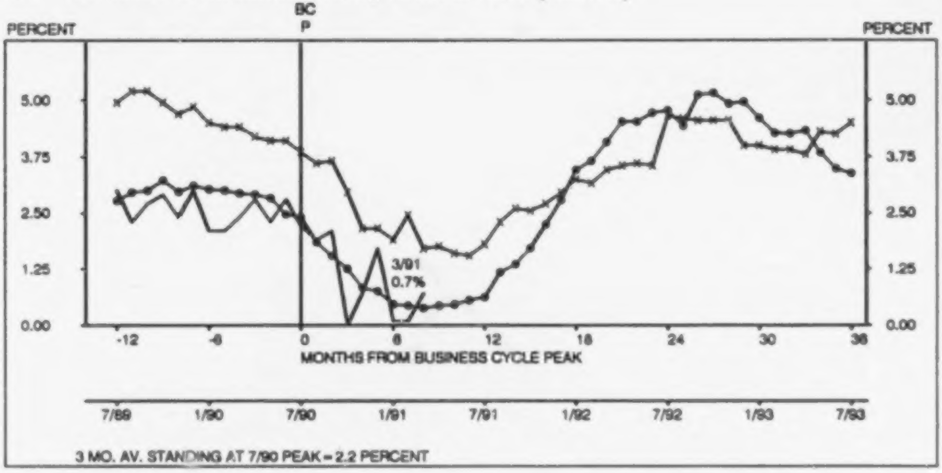
3 MO. AV. STANDING AT 7/90 PEAK = 1.2 PERCENT

15. Services Leading Index, Growth Rate (CIBCR)



3 MO. AV. STANDING AT 7/90 PEAK = 2.4 PERCENT

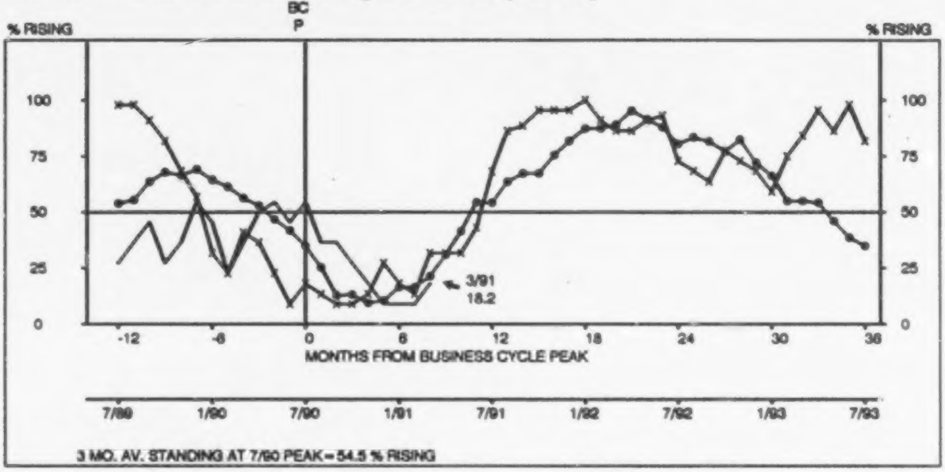
16. Services Coincident Index, Growth Rate (CIBCR)



3 MO. AV. STANDING AT 7/90 PEAK = 2.2 PERCENT

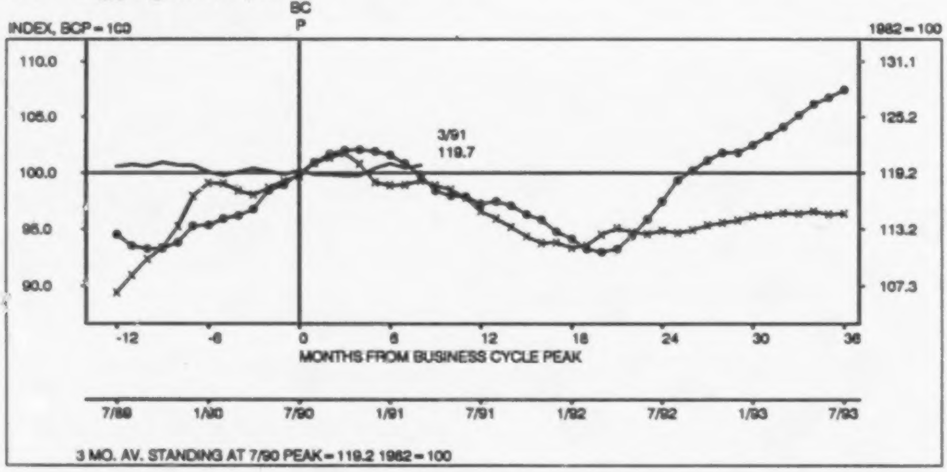
The service sector indexes have clearly followed the severe recession pattern, but the rise in the leading index is a hopeful sign.

17. Diffusion Index of Leading Indicators (CIBCR)



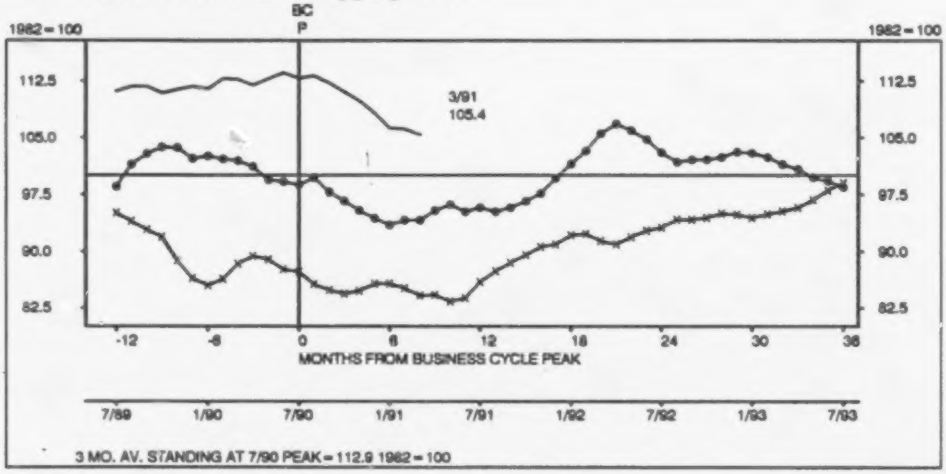
3 MO. AV. STANDING AT 7/90 PEAK=54.5 % RISING

18. Lagging Index (BEA)



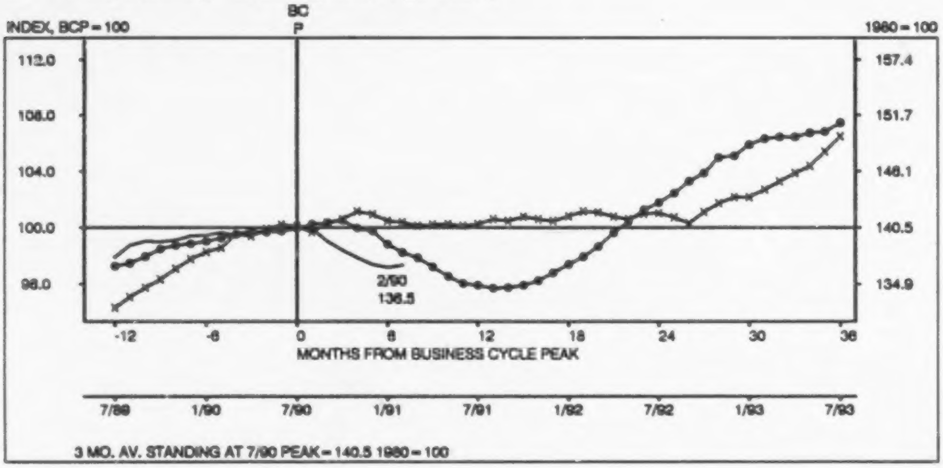
3 MO. AV. STANDING AT 7/90 PEAK=119.2 1982=100

19. Ratio, Coincident to Lagging Index

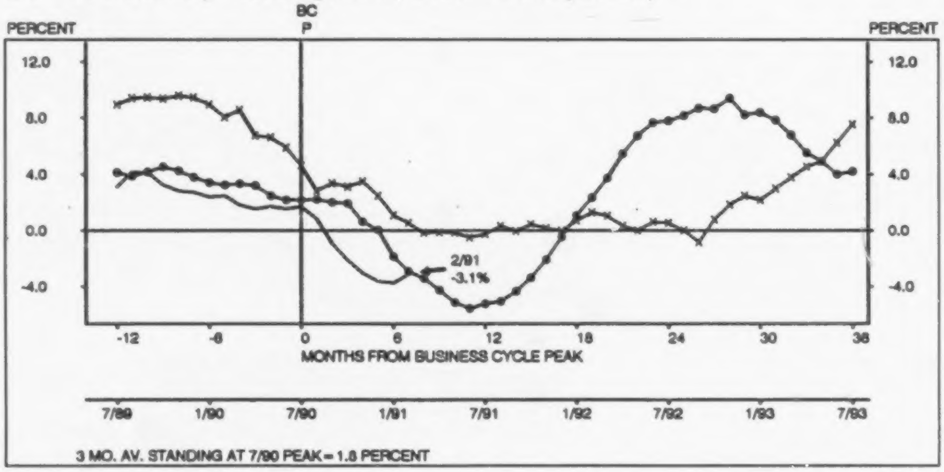


3 MO. AV. STANDING AT 7/90 PEAK=112.9 1982=100

20. Ten-Country* Leading Index (CIBCR)**



21. Ten-Country* Leading Index, Growth Rate (CIBCR)**



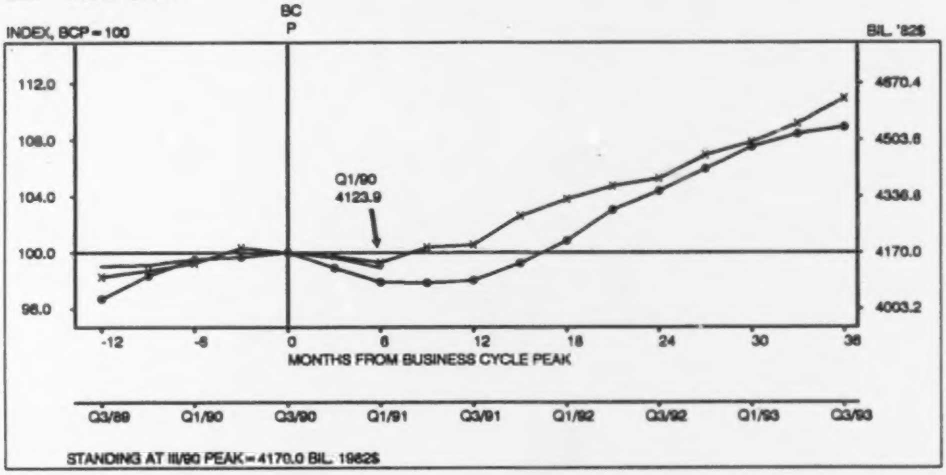
Global recessions tend to be severe, and the ten-country leading index and its growth rate is predictably following the severe recession pattern in the current global recession.

---

*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

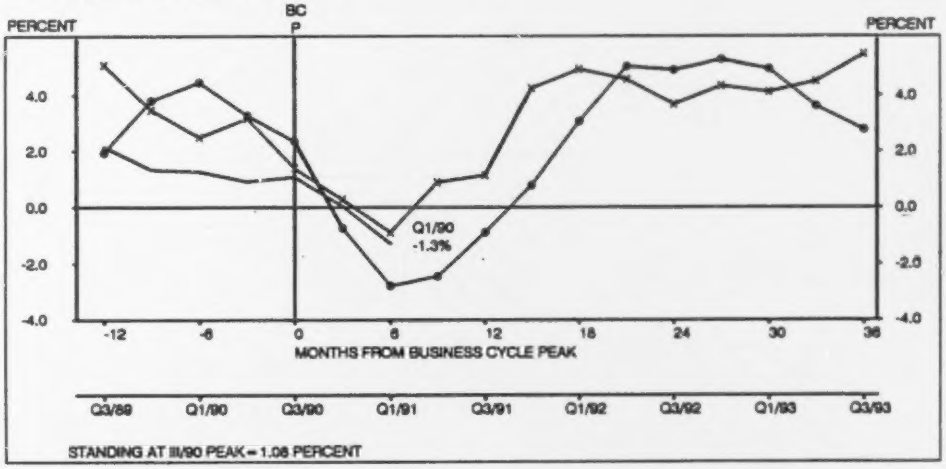
**1948-49 and 1953-59 recessions omitted from average of severe recessions, because series begin later.

22. Real GNP



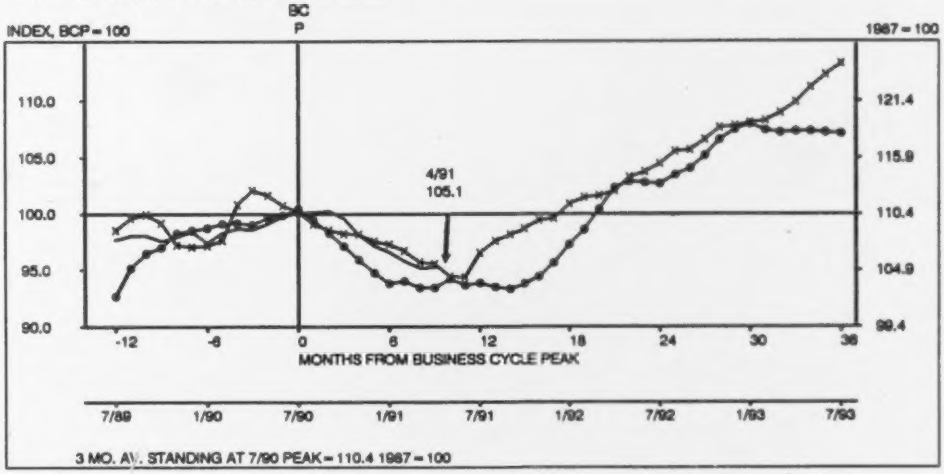
STANDING AT III/90 PEAK = 4170.0 BIL. 1982$

23. Real GNP, Growth Rate



STANDING AT III/90 PEAK = 1.08 PERCENT

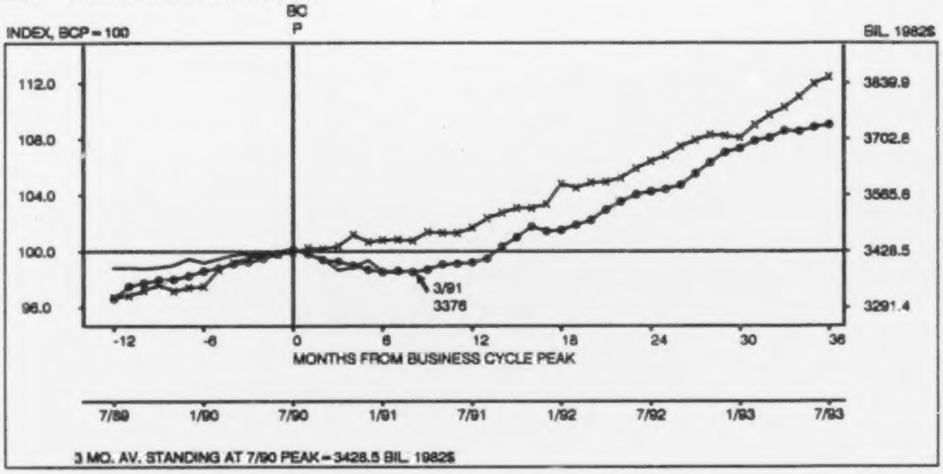
24. Industrial Production Index



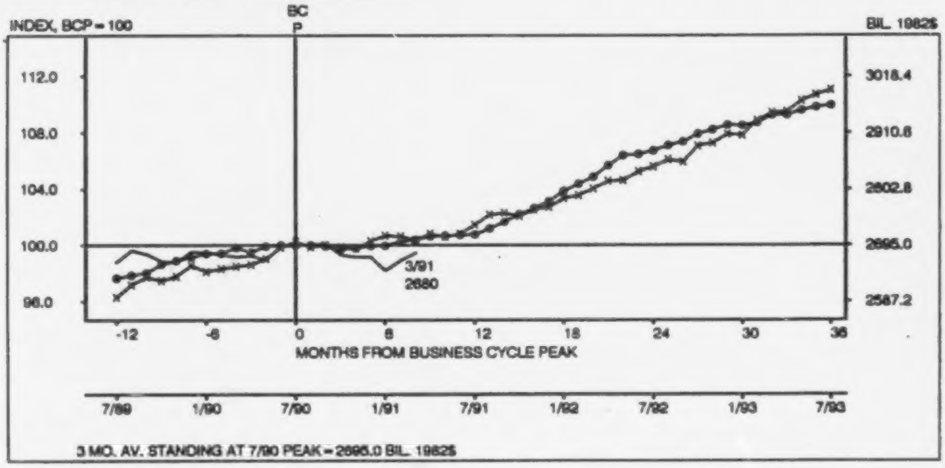
3 MO. AV. STANDING AT 7/90 PEAK = 110.4 1987 = 100

The broad picture, as captured by GNP growth and Industrial Production, seems to be similar to the mild recession scenario ...

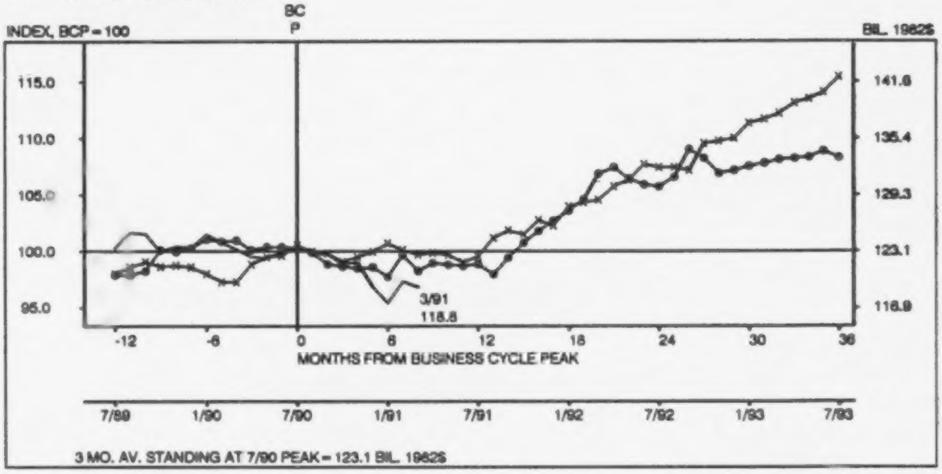
25. Real Personal Income



26. Real Consumer Expenditures

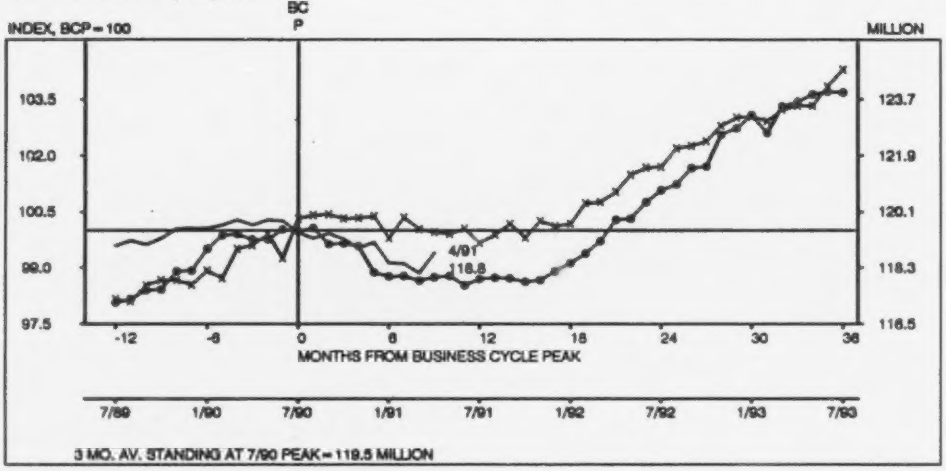


27. Real Retail Sales



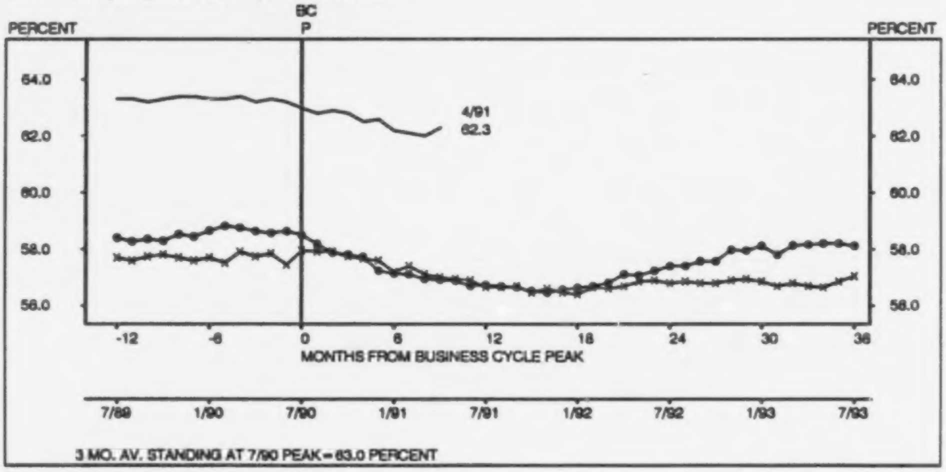
... but consumers are hurting much worse, as personal income, consumer expenditures and retail sales are close to or worse than their averages during severe recessions.

28. Total Employment



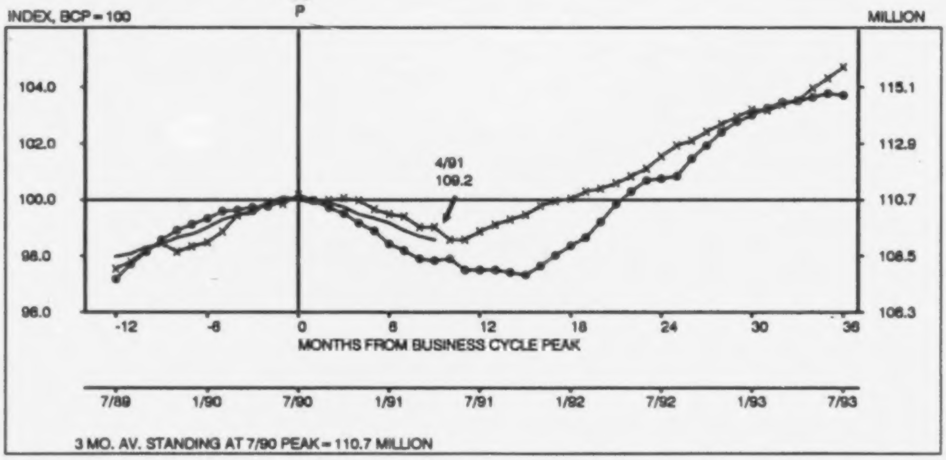
3 MO. AV. STANDING AT 7/90 PEAK = 119.5 MILLION

29. Employment/Population Ratio



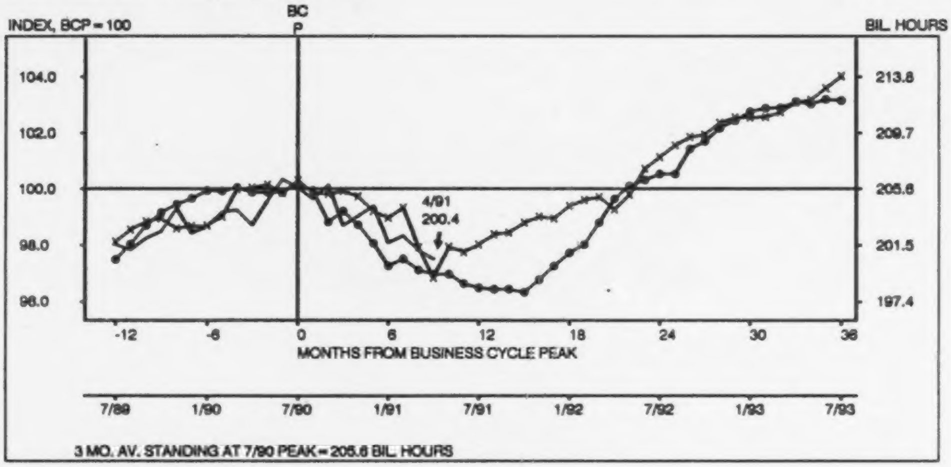
3 MO. AV. STANDING AT 7/90 PEAK = 63.0 PERCENT

30. Nonfarm Employment



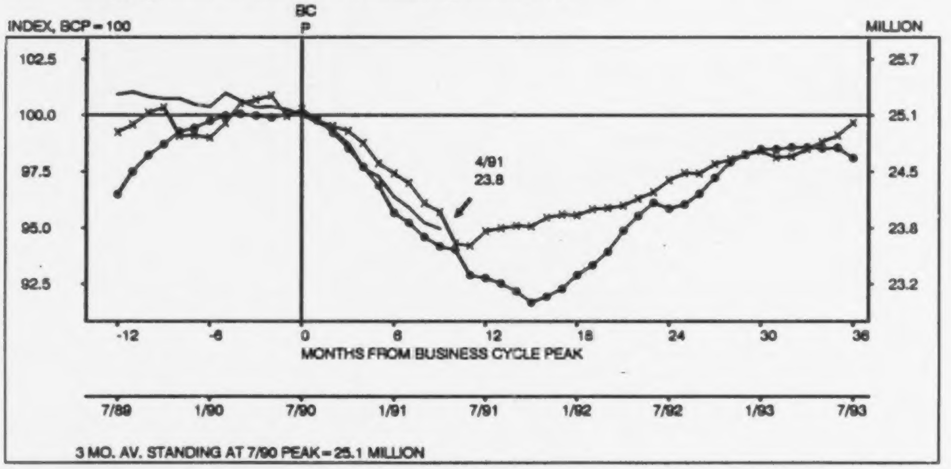
3 MO. AV. STANDING AT 7/90 PEAK = 110.7 MILLION

31. Nonfarm Employee-Hours



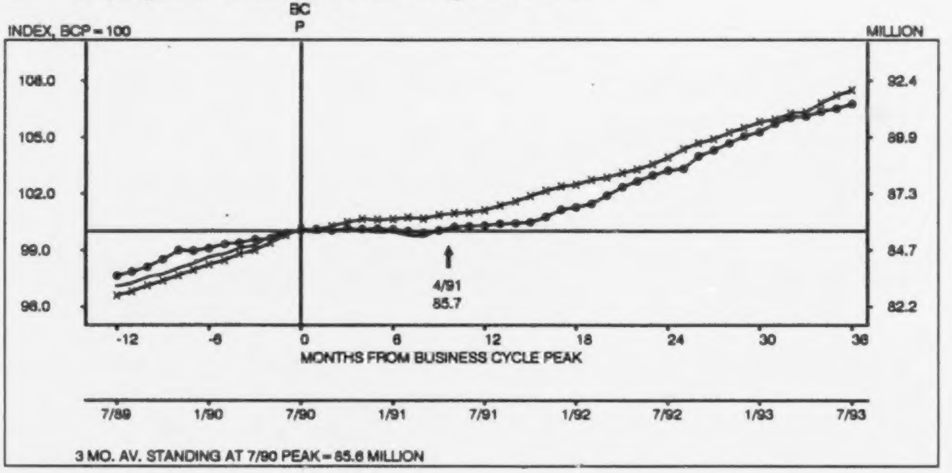
3 MO. AV. STANDING AT 7/90 PEAK = 205.6 BIL. HOURS

32. Employment in Goods-Producing Industries



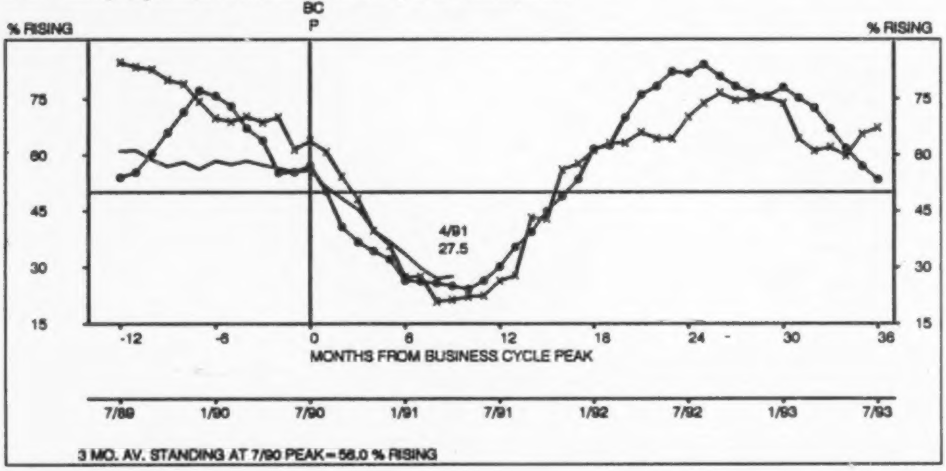
3 MO. AV. STANDING AT 7/90 PEAK = 25.1 MILLION

33. Employment in Service-Producing Industries

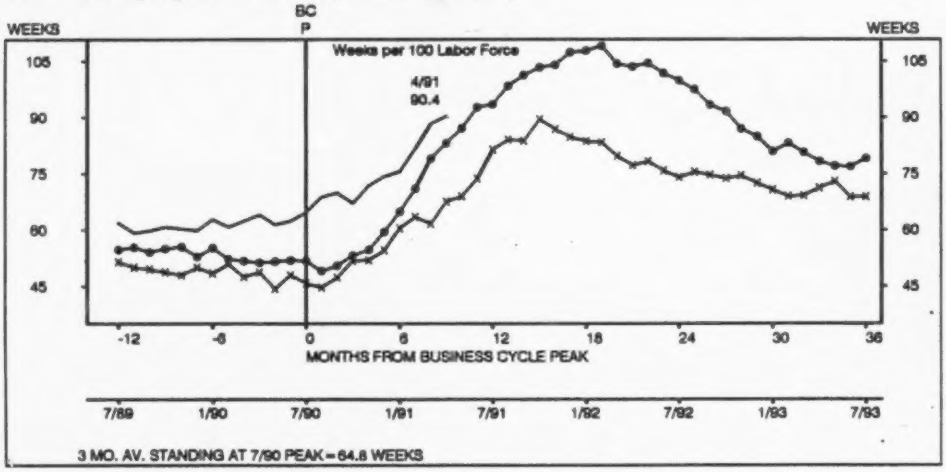


3 MO. AV. STANDING AT 7/90 PEAK = 85.6 MILLION

34. Employment Diffusion Index, 349 Industries

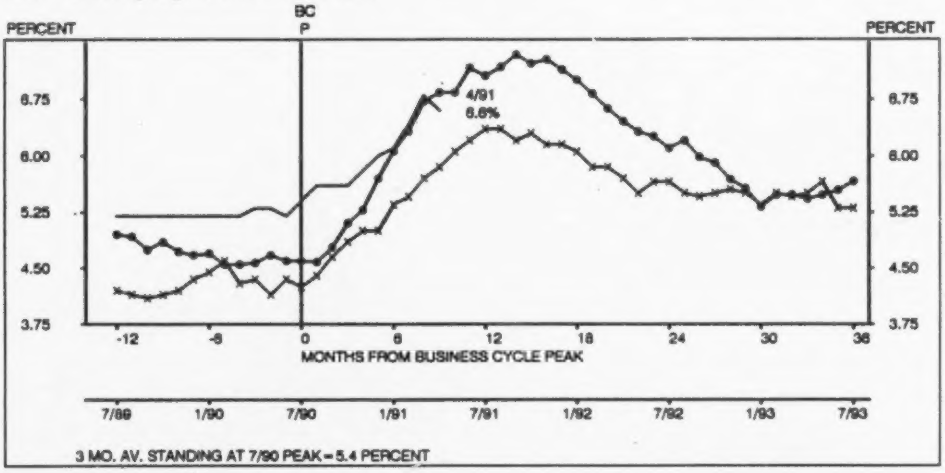


35. Unemployment Severity Index (CIBCR)

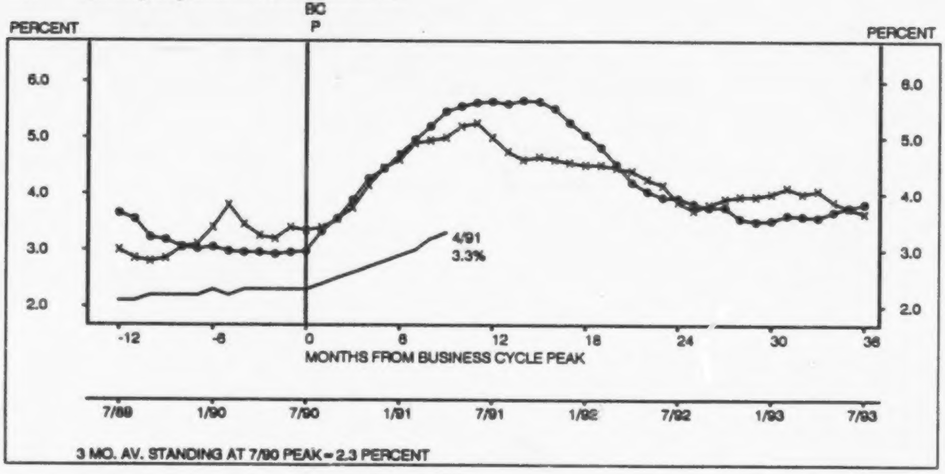


When the unemployment rate and the duration of unemployment are considered in tandem, this recession started out worse, and continues to be worse, than the average even for sharp recessions.

36. Unemployment Rate, Total

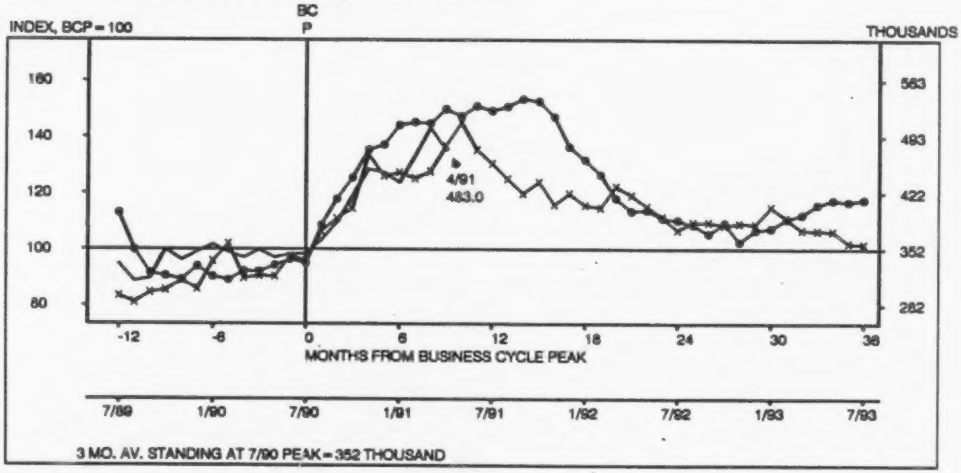


37. Unemployment Rate, Insured



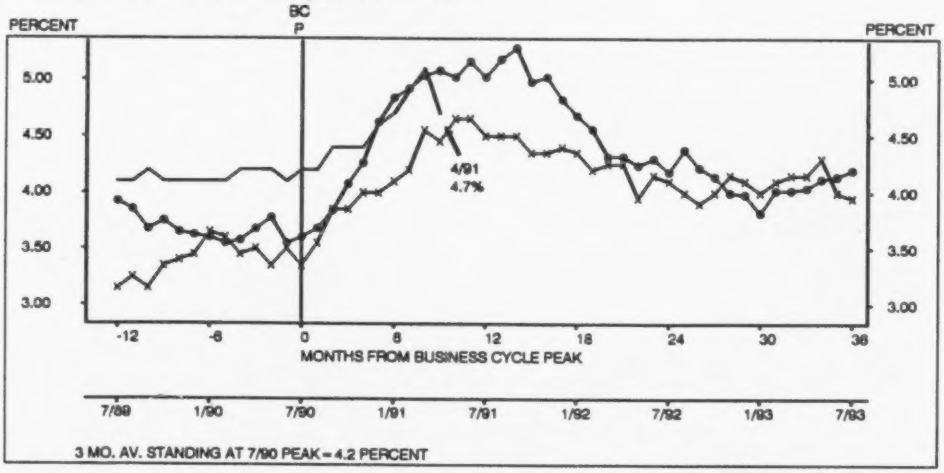
3 MO. AV. STANDING AT 7/90 PEAK = 2.3 PERCENT

38. Initial Claims, Unemployment Insurance



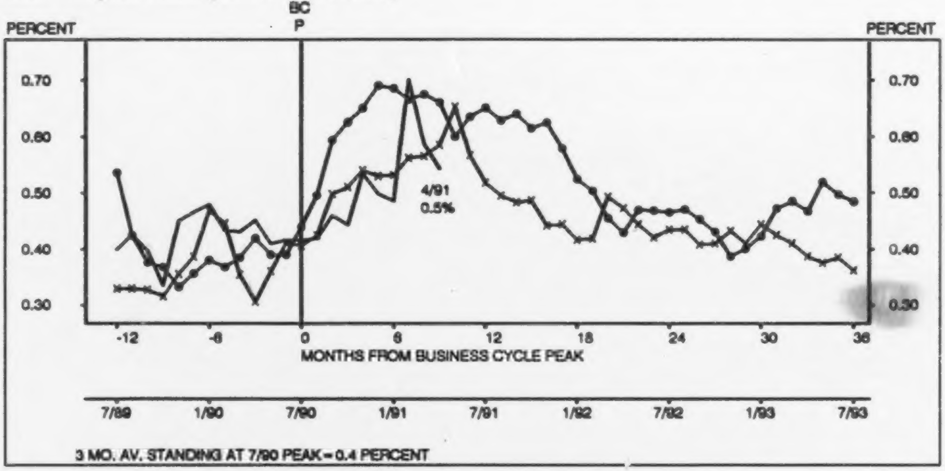
3 MO. AV. STANDING AT 7/90 PEAK = 352 THOUSAND

39. Short-Duration Unemployment Rate



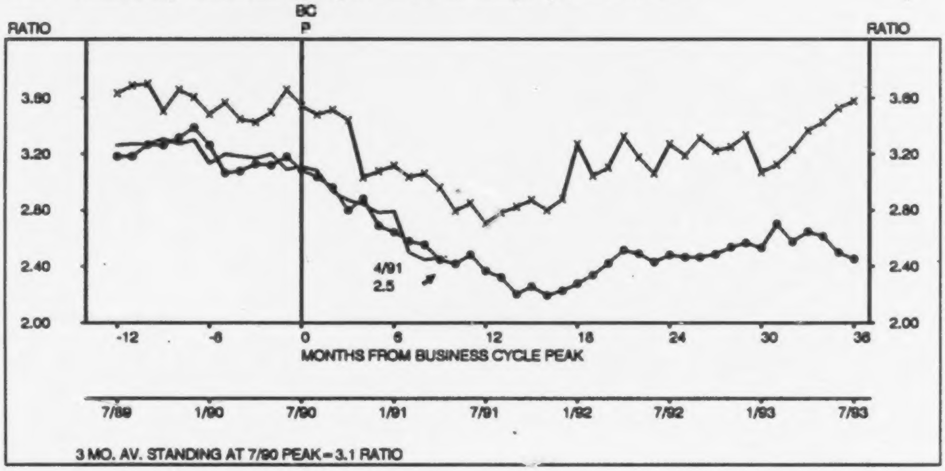
3 MO. AV. STANDING AT 7/90 PEAK = 4.2 PERCENT

40. Layoff Rate (Under 5 Weeks)



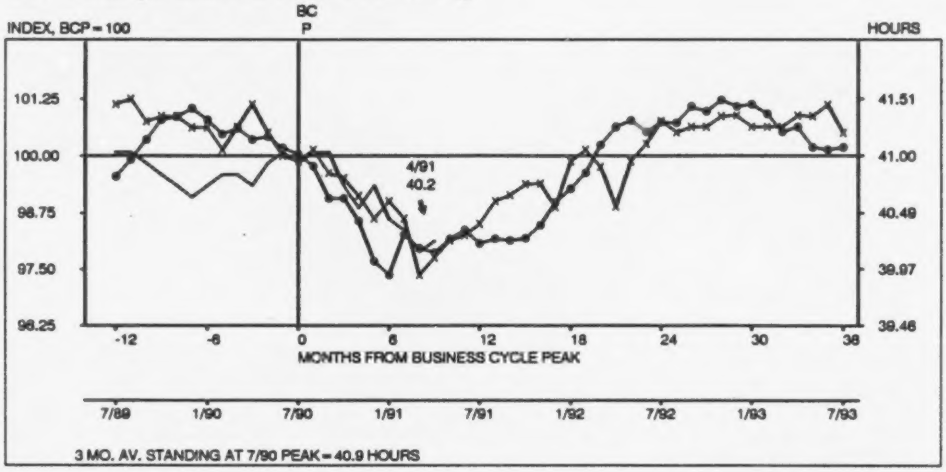
3 MO. AV. STANDING AT 7/90 PEAK=0.4 PERCENT

41. Voluntary to Involuntary Part-Time Employment Ratio



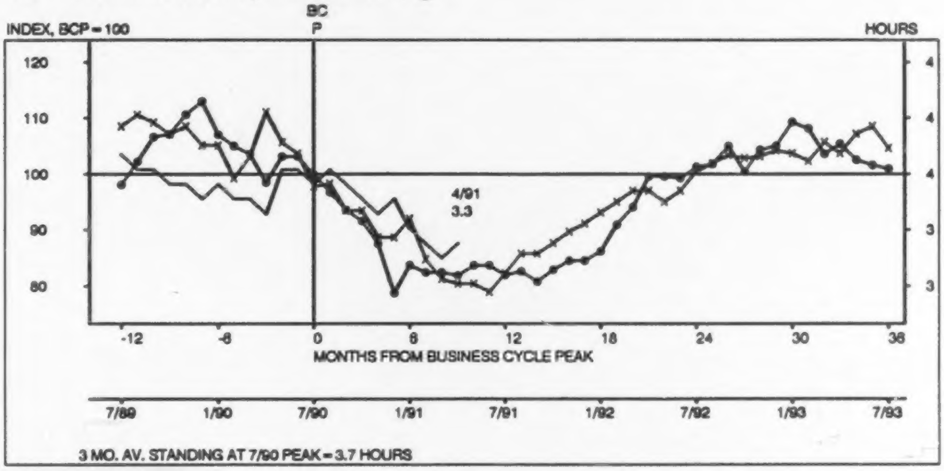
3 MO. AV. STANDING AT 7/90 PEAK=3.1 RATIO

42. Average Workweek, Manufacturing

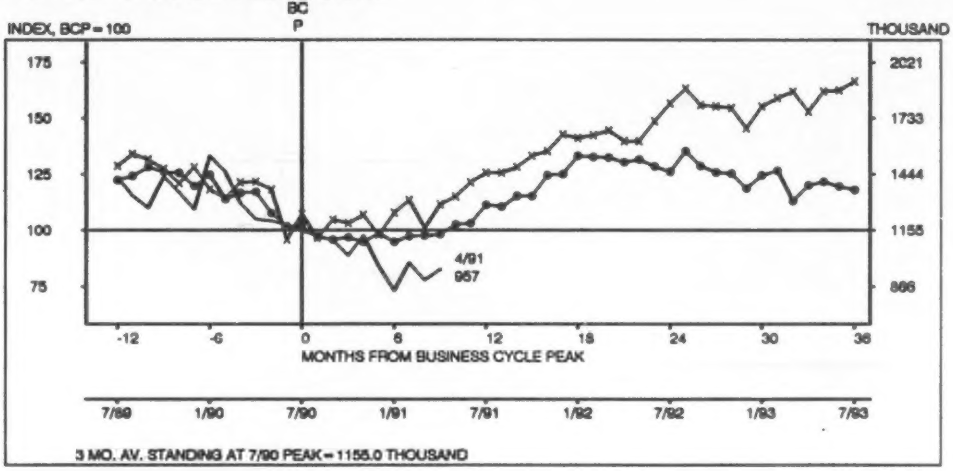


3 MO. AV. STANDING AT 7/90 PEAK=40.9 HOURS

43. Overtime Hours, Manufacturing

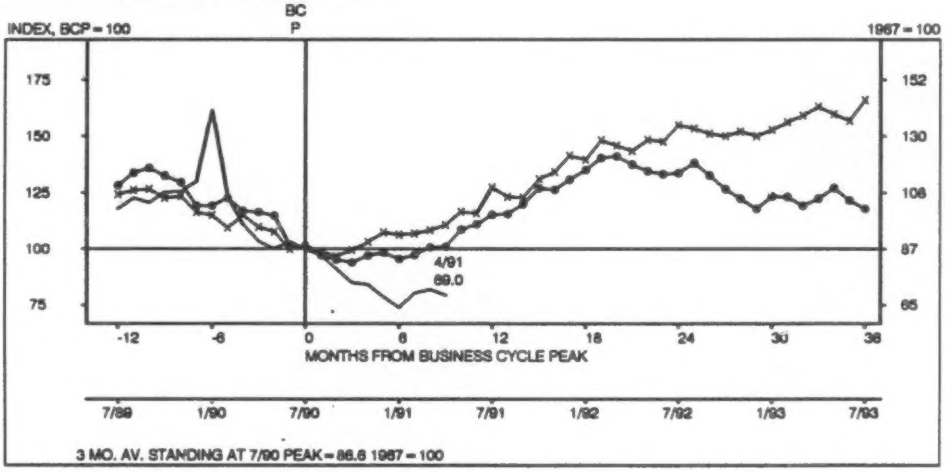


44. New Private Housing Starts



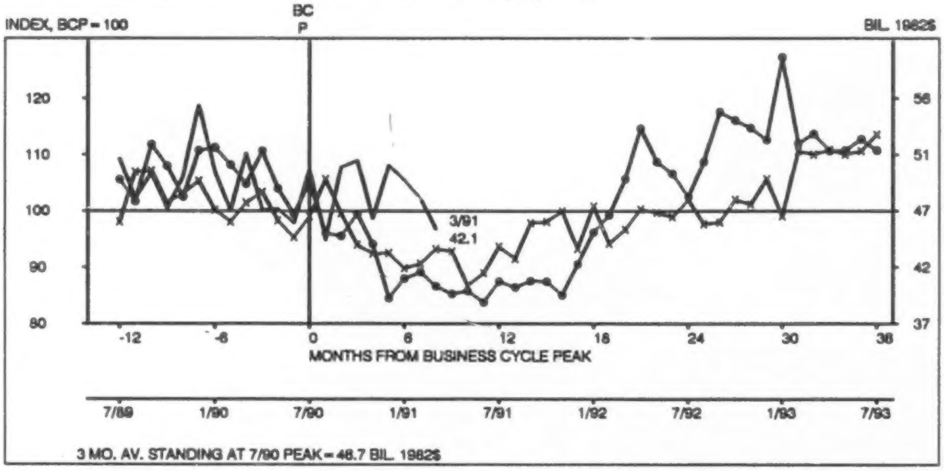
3 MO. AV. STANDING AT 7/90 PEAK=1155.0 THOUSAND

45. New Private Housing Permits



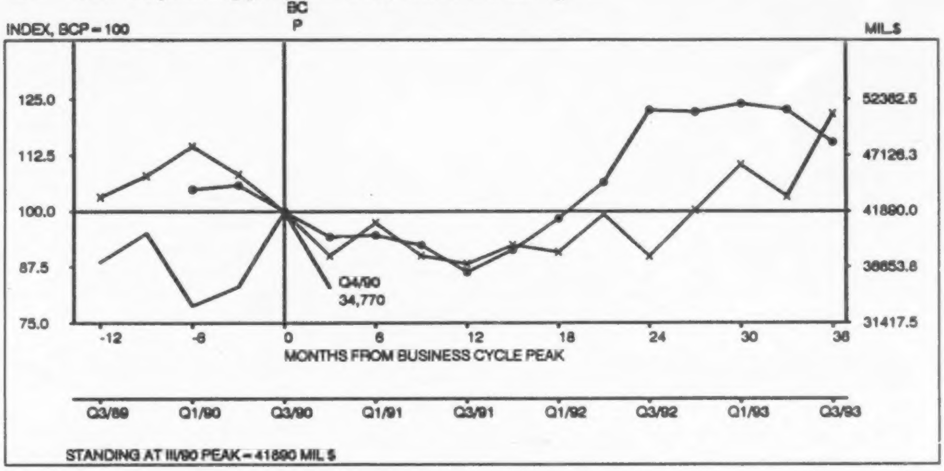
3 MO. AV. STANDING AT 7/90 PEAK=86.6 1987=100

46. Contracts and Orders for Plant and Equipment

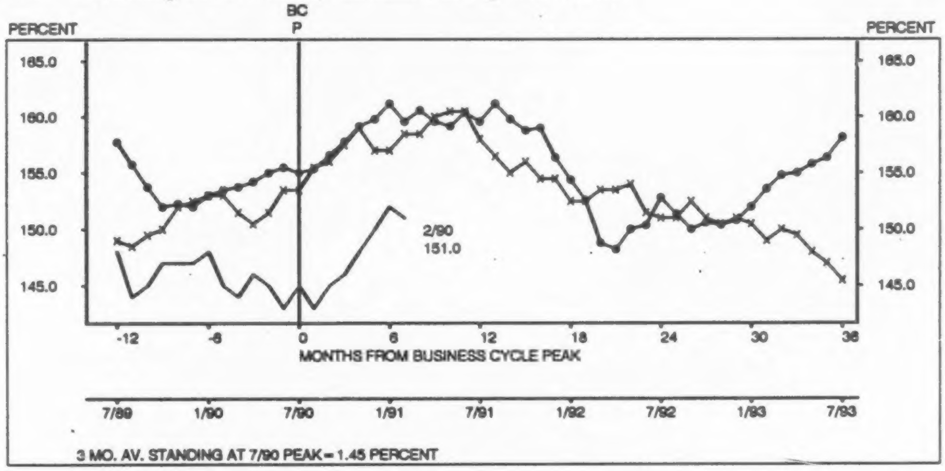


3 MO. AV. STANDING AT 7/90 PEAK=46.7 BIL. 1982$

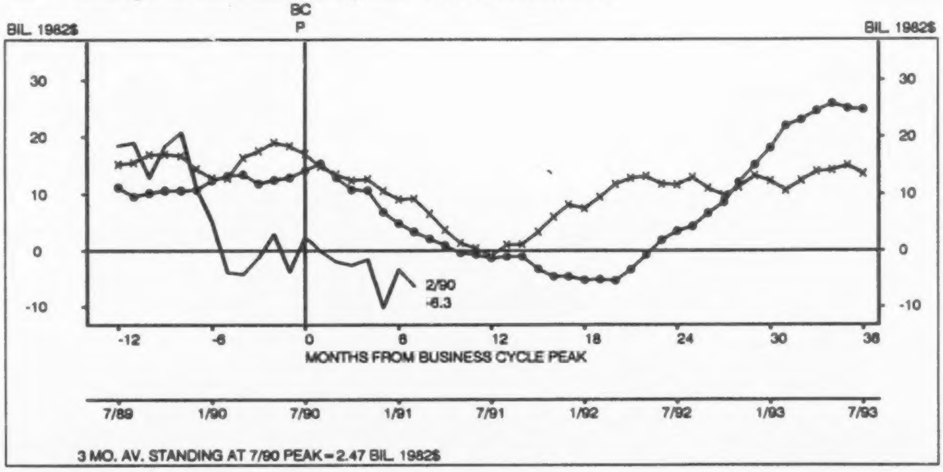
47. New Capital Appropriations, Manufacturing***



48. Inventory/Sales Ratio, Manufacturing and Trade

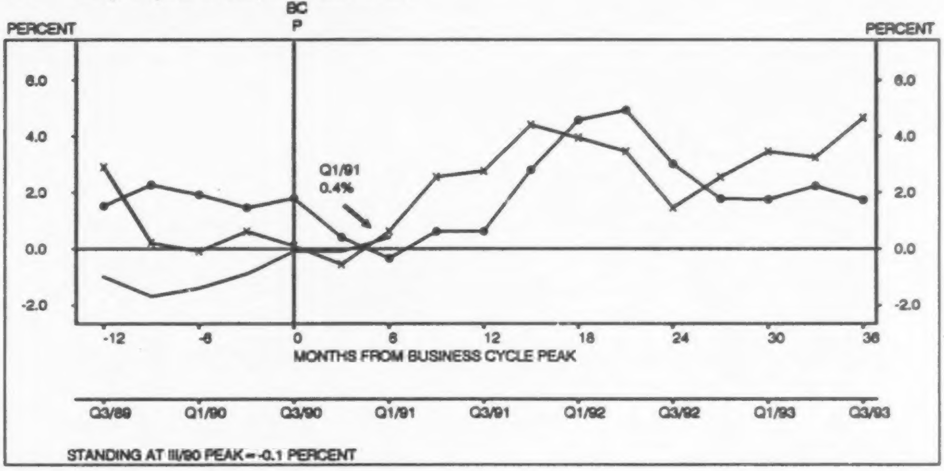


49. Change in Manufacturing and Trade Inventories

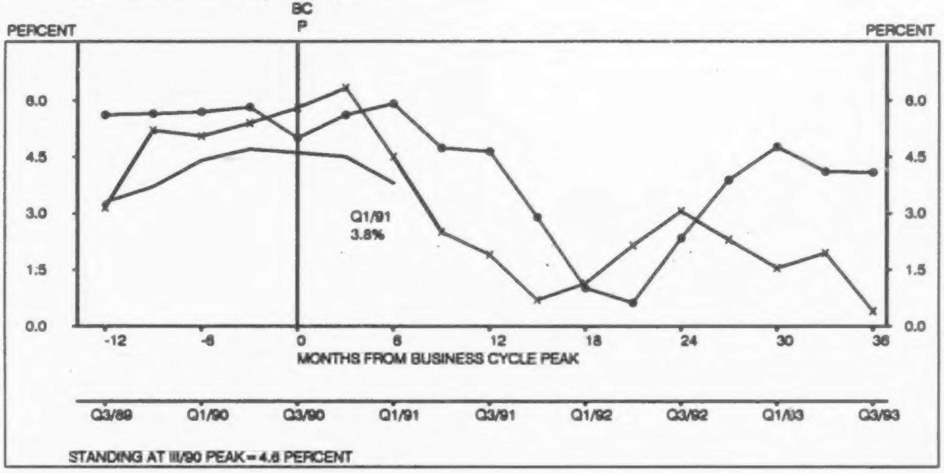


*** 1948-49 recession omitted from average of severe recessions, because series begins later.

50. Output per Hour, Growth Rate

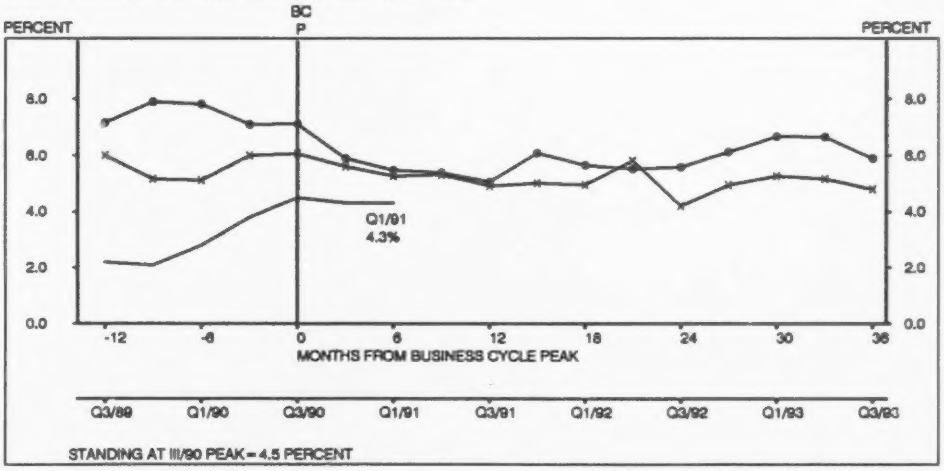


51. Unit Labor Costs, Growth Rate

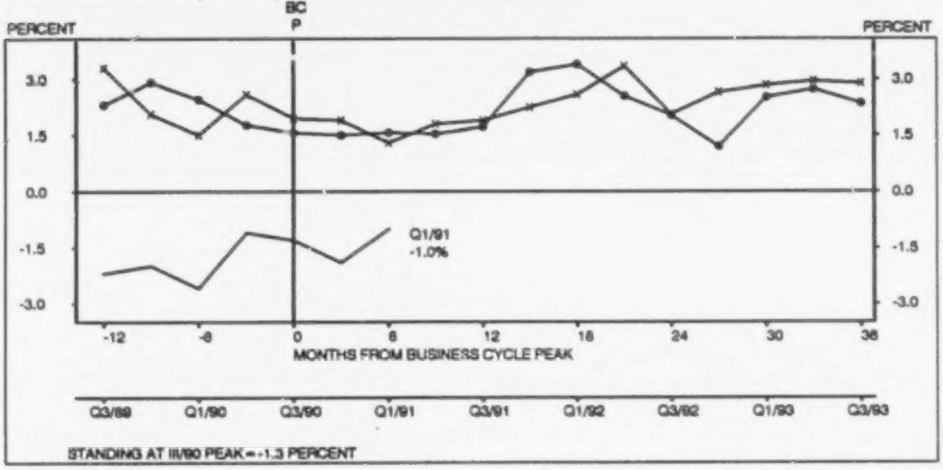


The growth rates of Unit Labor Costs and Hourly Compensation continue to drop to rates below the average for mild recessions. This is a hopeful sign for a future recovery.

52. Hourly Compensation, Growth Rate

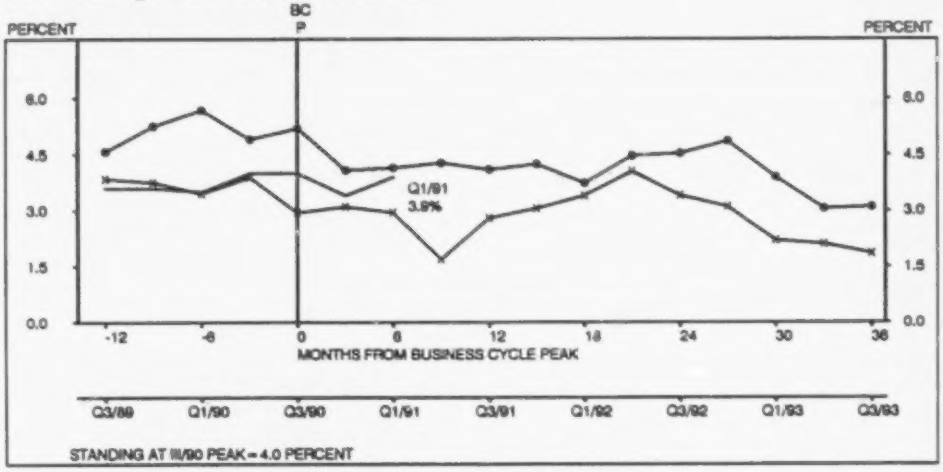


53. Real Hourly Compensation, Growth Rate



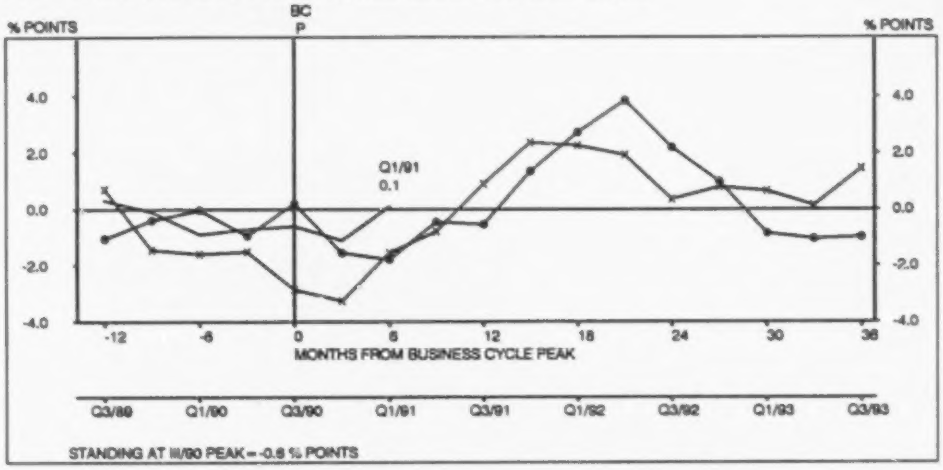
STANDING AT III/90 PEAK = -1.3 PERCENT

54. Selling Price Index, Growth Rate



STANDING AT III/90 PEAK = 4.0 PERCENT

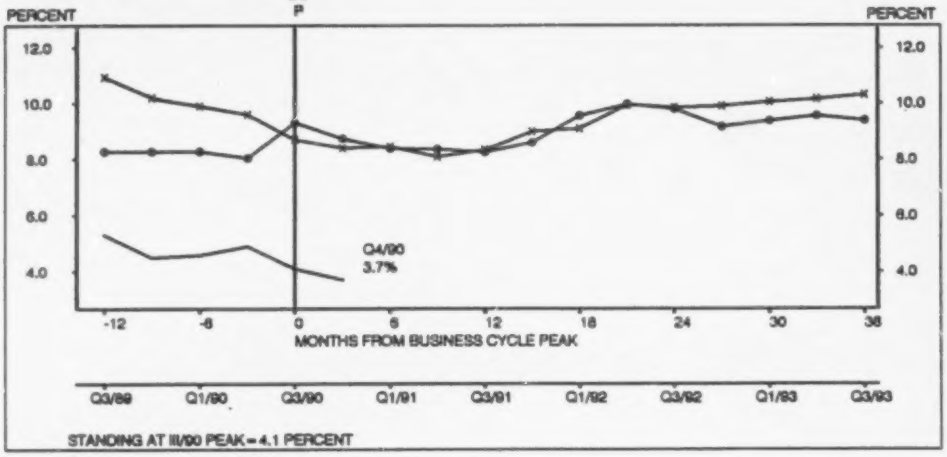
55. Growth Rate in Prices Minus Growth Rate in Costs



STANDING AT III/90 PEAK = -0.6 % POINTS

Growth in hourly compensation during this recession has been far lower than in the average recession, while growth in selling prices is much closer to the average pattern during recessions. As a result, corporate profits, as reflected in the difference between prices and costs, should have been doing better than in the average recession ...

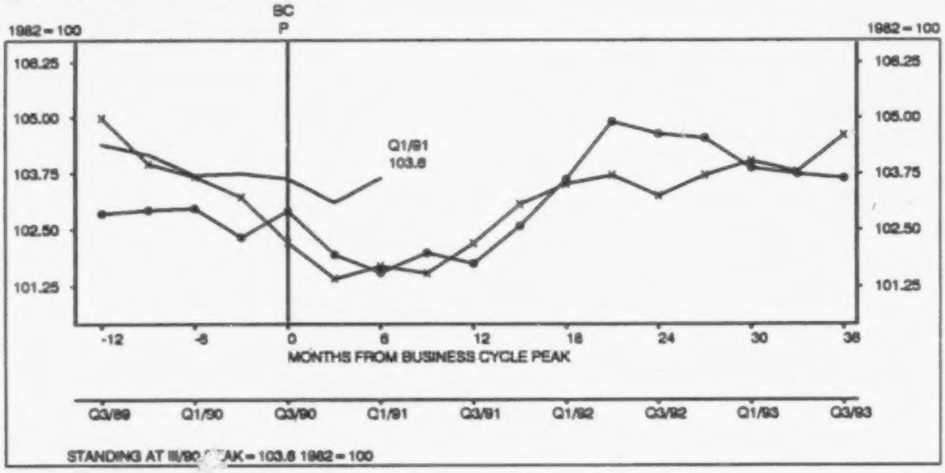
56. Corporate Profit Margin



STANDING AT III/90 PEAK = 4.1 PERCENT

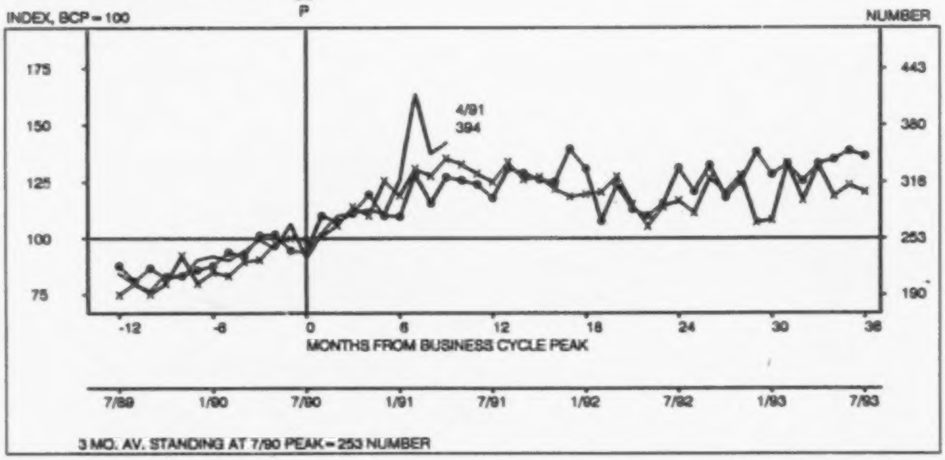
... Yet, corporate profits are doing much worse than the average during recessions. One culprit may be the magnitude of the interest burden on corporate debt.

57. Price/Labor Cost Ratio



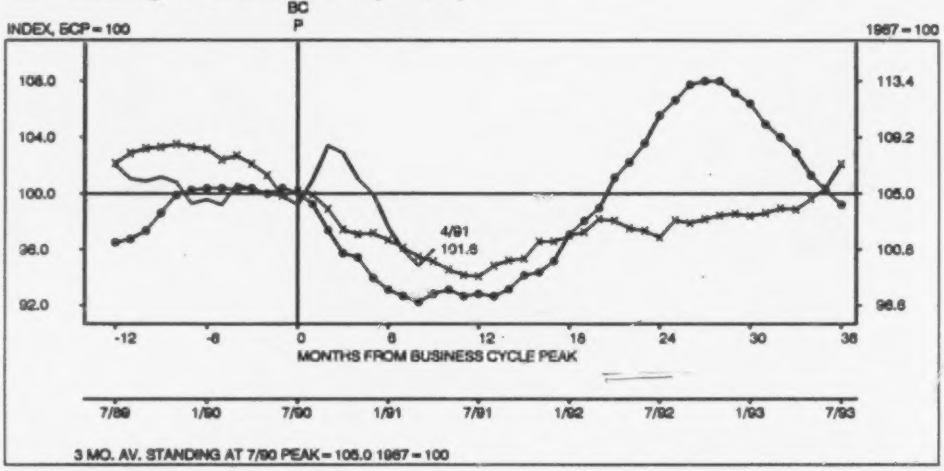
STANDING AT III/90 PEAK = 103.6 1982 = 100

58. Large Business Failures



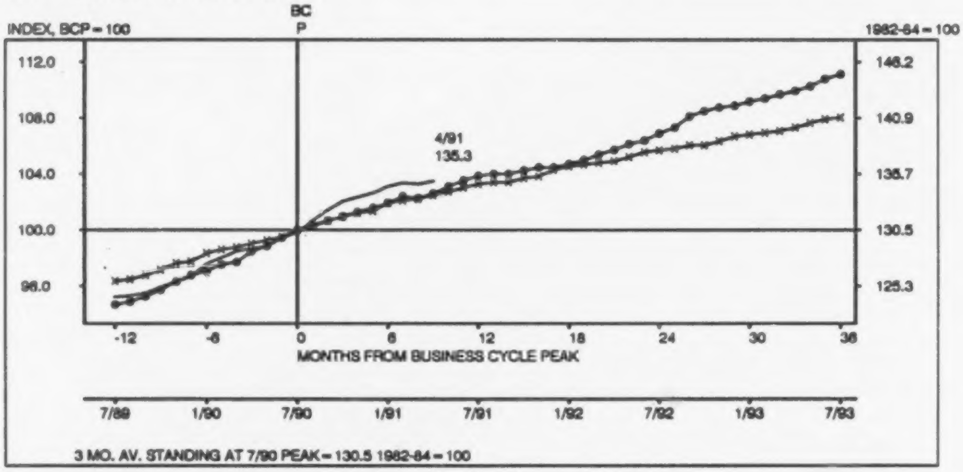
3 MO. AV. STANDING AT 7/90 PEAK = 253 NUMBER

59. Leading Index of Inflation (CIBCR)



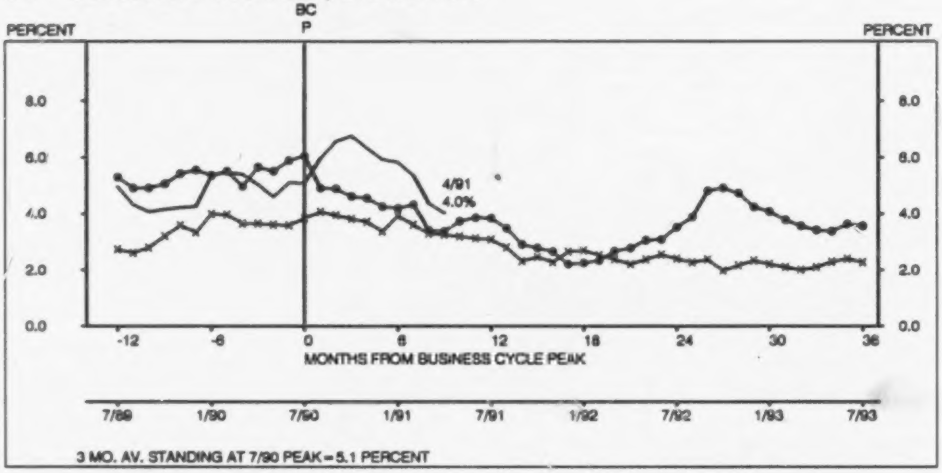
3 MO. AV. STANDING AT 7/90 PEAK=105.0 1967=100

60. Consumer Price Index



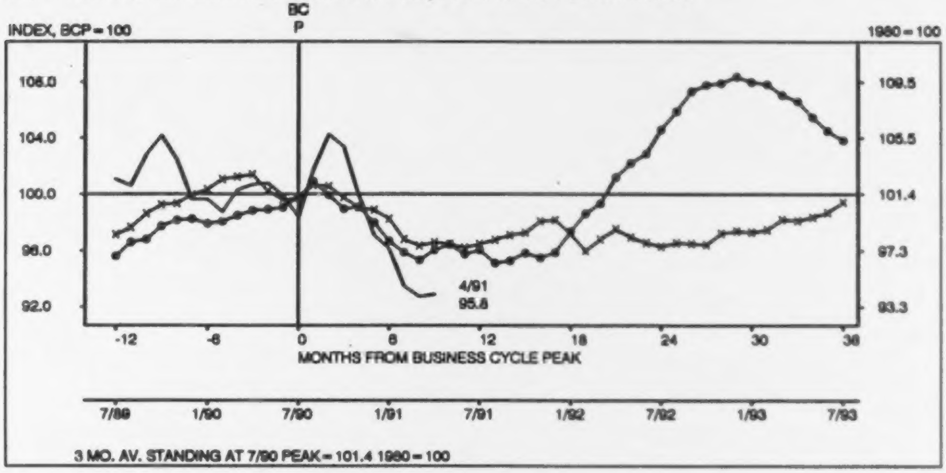
3 MO. AV. STANDING AT 7/90 PEAK=130.5 1982-84=100

61. Consumer Price Index, Growth Rate



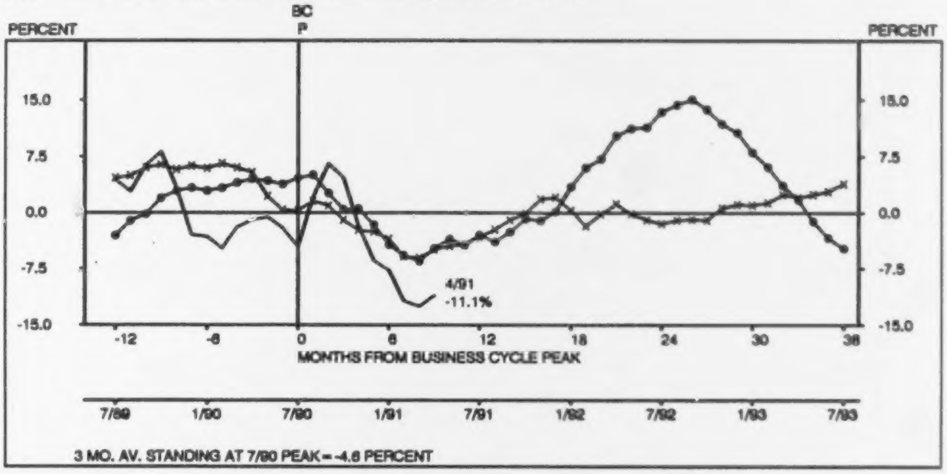
3 MO. AV. STANDING AT 7/90 PEAK=5.1 PERCENT

62. Industrial Materials Price Index, Journal of Commerce



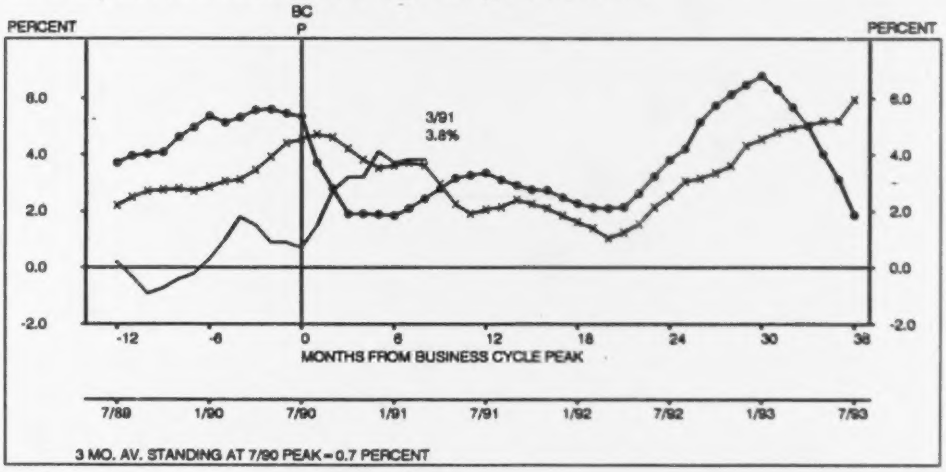
3 MO. AV. STANDING AT 7/90 PEAK=101.4 1980=100

63. Industrial Materials Price Index, Growth Rate



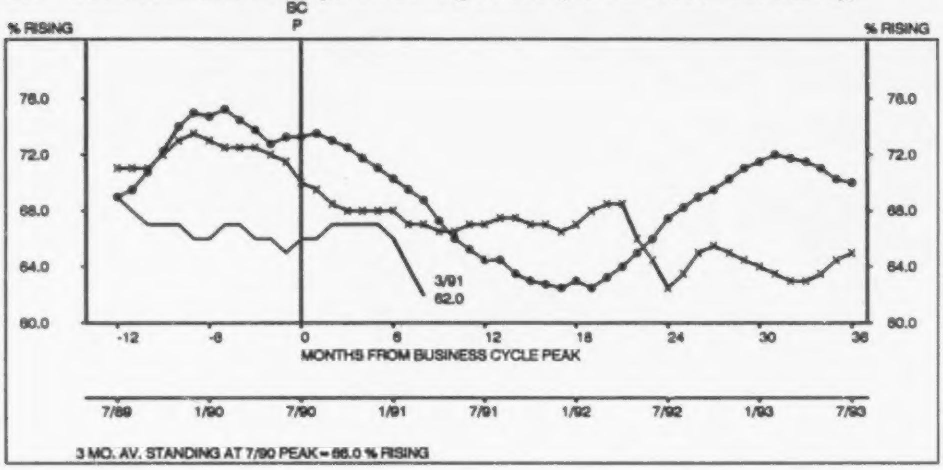
3 MO. AV. STANDING AT 7/90 PEAK=-4.6 PERCENT

64. Import Price Index (Excluding Fuels), Growth Rate



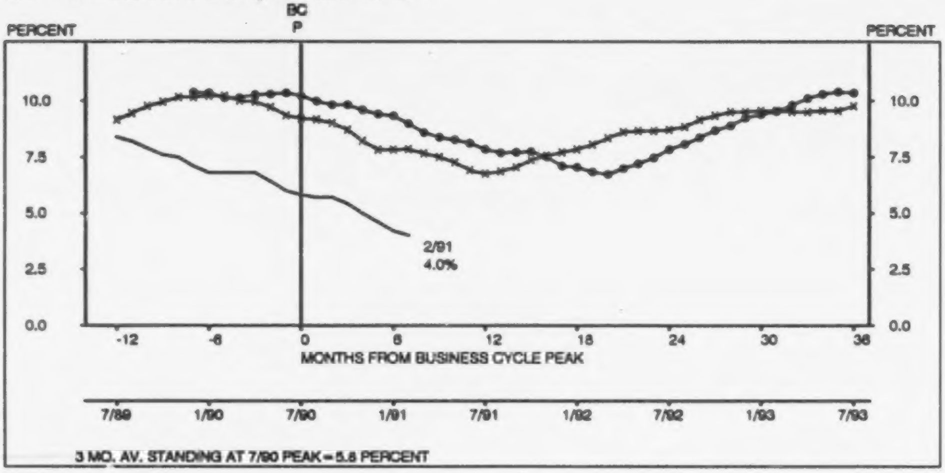
3 MO. AV. STANDING AT 7/90 PEAK=0.7 PERCENT

65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)***



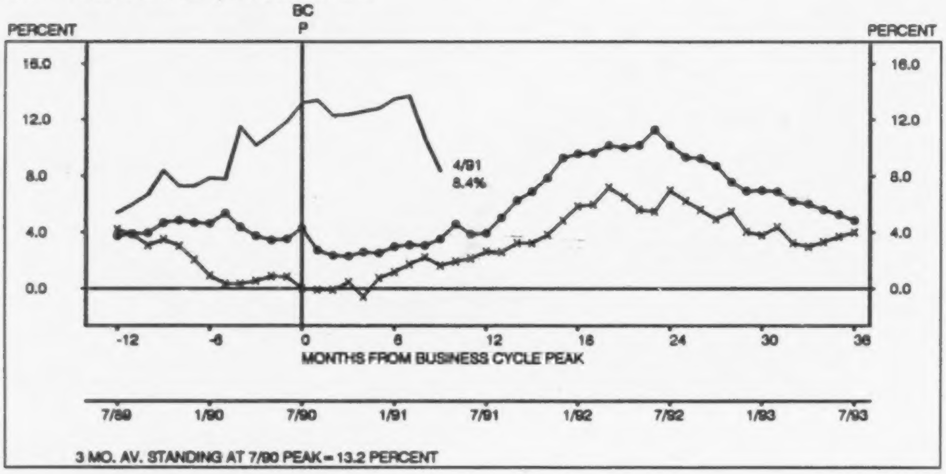
*** 1948-49 recession omitted from average of severe recessions, because series begins later.

66. Nonfederal Debt, Growth Rate**



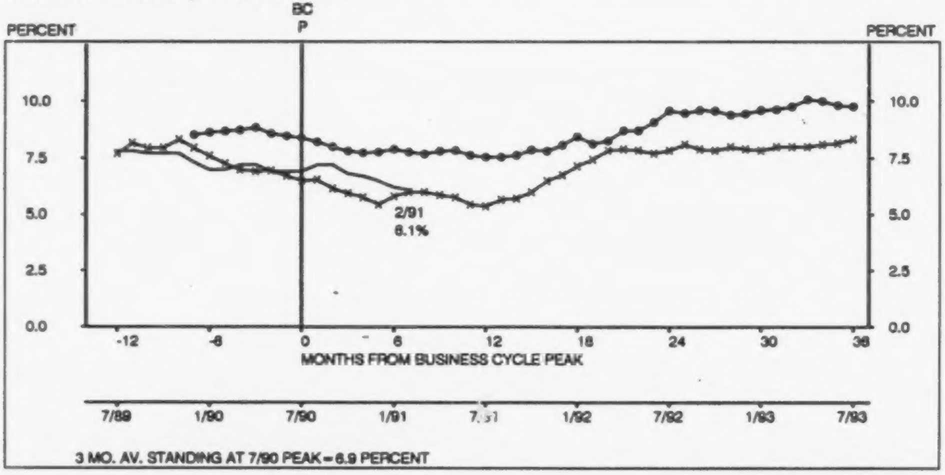
3 MO. AV. STANDING AT 7/90 PEAK=5.8 PERCENT

67. Federal Debt, Growth Rate



3 MO. AV. STANDING AT 7/90 PEAK=13.2 PERCENT

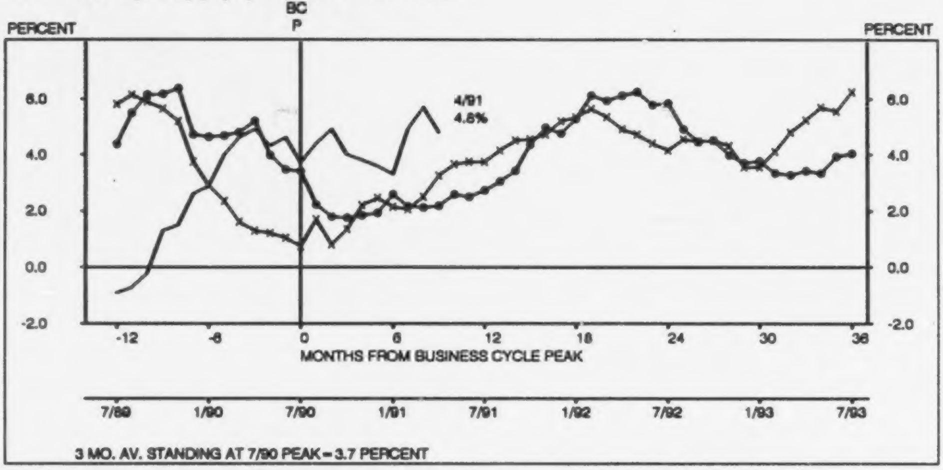
68. Total Debt, Growth Rate**



3 MO. AV. STANDING AT 7/90 PEAK=6.9 PERCENT

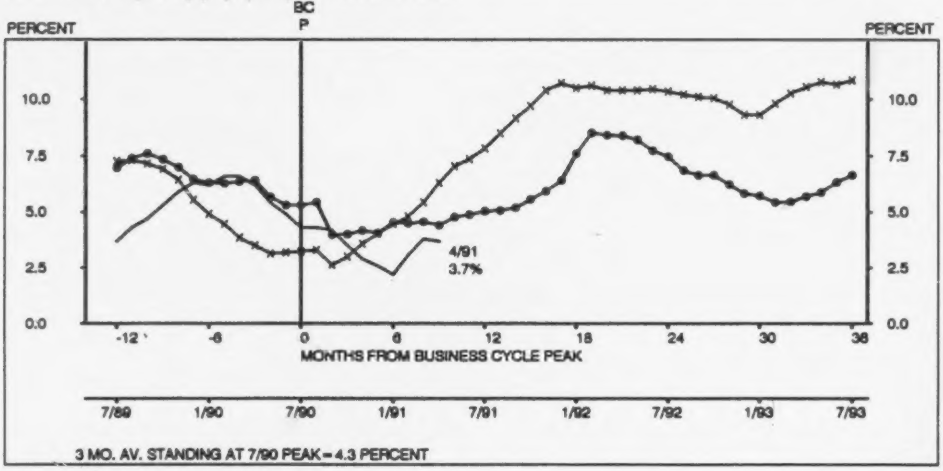
** 1948-49 and 1953-59 recessions omitted from average of severe recessions because series begin later

69. Money Supply (M1), Growth Rate



3 MO. AV. STANDING AT 7/90 PEAK=3.7 PERCENT

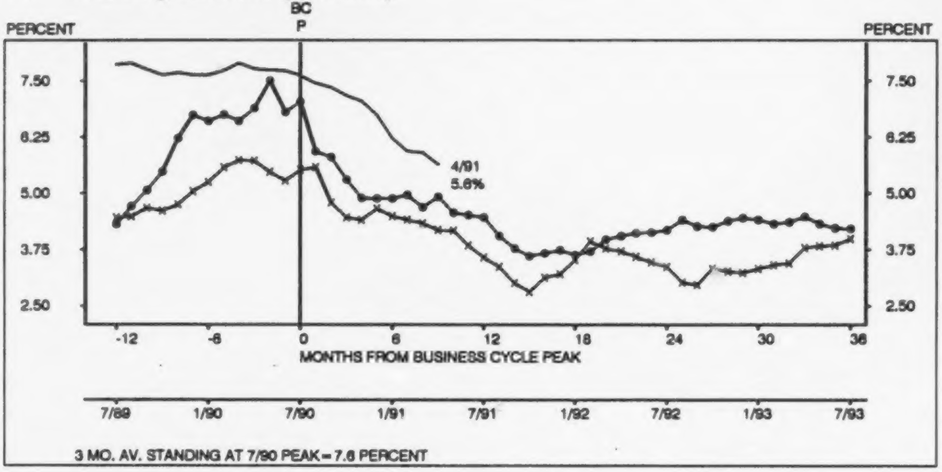
70. Money Supply (M2), Growth Rate



3 MO. AV. STANDING AT 7/90 PEAK=4.3 PERCENT

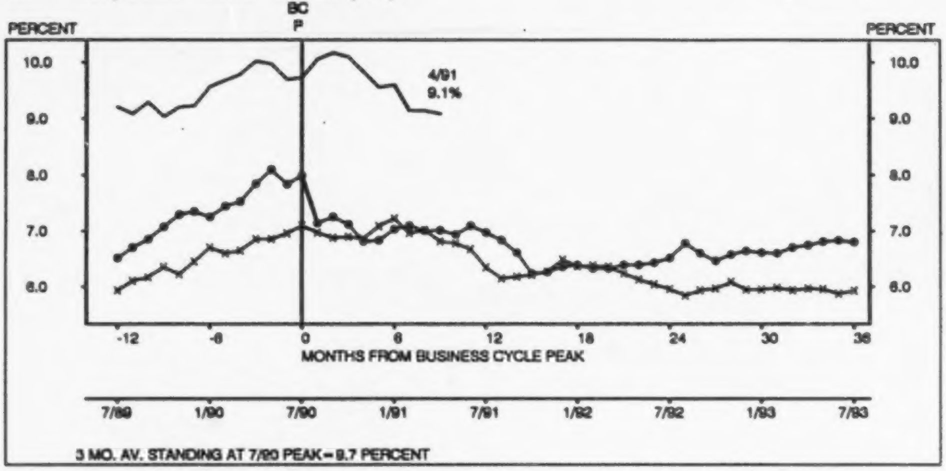
Money Supply M2 is growing faster than before, but more slowly than even in severe recessions. The T-Bill rate is falling, but continues to be higher than even in severe recessions. Improvement on both fronts would help put a quick end to this recession ...

71. Treasury Bill Rate (3-Month)



3 MO. AV. STANDING AT 7/90 PEAK=7.6 PERCENT

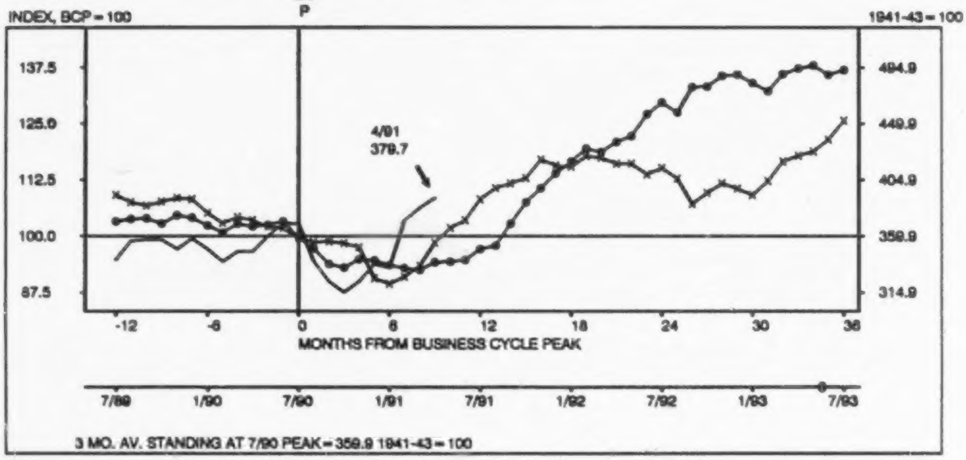
72. Corporate Bond Yields (AA)



3 MO. AV. STANDING AT 7/90 PEAK=9.7 PERCENT

... as would a drop in bond yields, which are still far higher than the pattern even in severe recessions.

73. Common Stock Price Index (S&P 500)



3 MO. AV. STANDING AT 7/90 PEAK=359.9 1941-43=100

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ABOUT THE CENTER FOR INTERNATIONAL BUSINESS CYCLE RESEARCH

The Center for International Business Cycle Research (CIBCR), established in 1979, specializes in the study of trends and fluctuations in economic growth and inflation in the United States and other countries. The analysis contained in this report is the result of the Center's ongoing research programs on U.S. business cycles. Readers are invited to submit comments and suggestions concerning this publication. In addition, readers wishing to secure data compiled by the Center on the ten other major industrial countries or copies of research reports may do so by communicating with:

Center for International Business Cycle Research
Uris Hall, Columbia University
New York, NY 10027
Telephone: (212) 280-2916

ABOUT THIS REPORT

Recession-Recovery Watch is a quarterly report designed to analyze current business cycle trends in terms of previous recession or recovery patterns in the United States.

This report was begun in August 1979, under the direction of Dr. Geoffrey H. Moore, following the methodology for measuring recessions developed at the National Bureau of Economic Research. Although no forecasts are made, the materials in this report do permit glimpses into the future: first, by analyzing the behavior of various leading indicators; second, by indicating what is likely to happen in terms of what did happen in previous recessions and recoveries.

The leading indicators used in this report are relevant to future output and employment because they represent actions taken, like the placing of orders, that will result in future output, or because they reflect factors, like profits, that influence future decisions on output. The record of what happens during the latter stages of business cycles is relevant because of the family resemblance among successive cycles, a resemblance that has its origin in the processes by which business cycles are generated. Every business cycle has its own surprises, partly because of policy actions taken, but many developments are not surprising, having occurred many times before. The historical comparisons contained in this report help one anticipate what is typical and distinguish it from the unusual.

Other CIBCR publications include International Economic Indicators, a monthly 80-page compilation of charts and data on leading and coincident indicators for eleven industrial countries. Monthly press releases are issued on a leading index of inflation and a leading employment index for the United States. A bulletin on leading and coincident Service Sector Indicators is also published monthly.

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RECESSION–RECOVERY WATCH...

A Quarterly Report
Designed to Assist in the Evaluation
of Current Business Conditions

Published by the Center for International Business Cycle Research,
Columbia Business School, Columbia University, New York, NY 10027

Dr. Geoffrey H. Moore
Director

Vol.13, No. 3
August 1991

1. Summary

A collection of comprehensive measures of economic activity suggests that May 1991 may be the business cycle trough, marking the end of the ten-month recession that began in July 1990. Most of the leading indexes support the view that a recovery is underway, including a new leading index that has already risen past its previous peak. The leading employment index foresees a decline in unemployment to 6% later this year. In view of the relatively mild nature of the 1990-91 recession, industrial production is likely to regain its previous peak level before the end of 1991. How long the expansion lasts beyond that remains an uncertainty, but the 200-year record of business cycle expansions shows they have become longer rather than shorter. Moreover, the recent decline in the prime rate indicates that 1992 can be counted on as an expansionary year.

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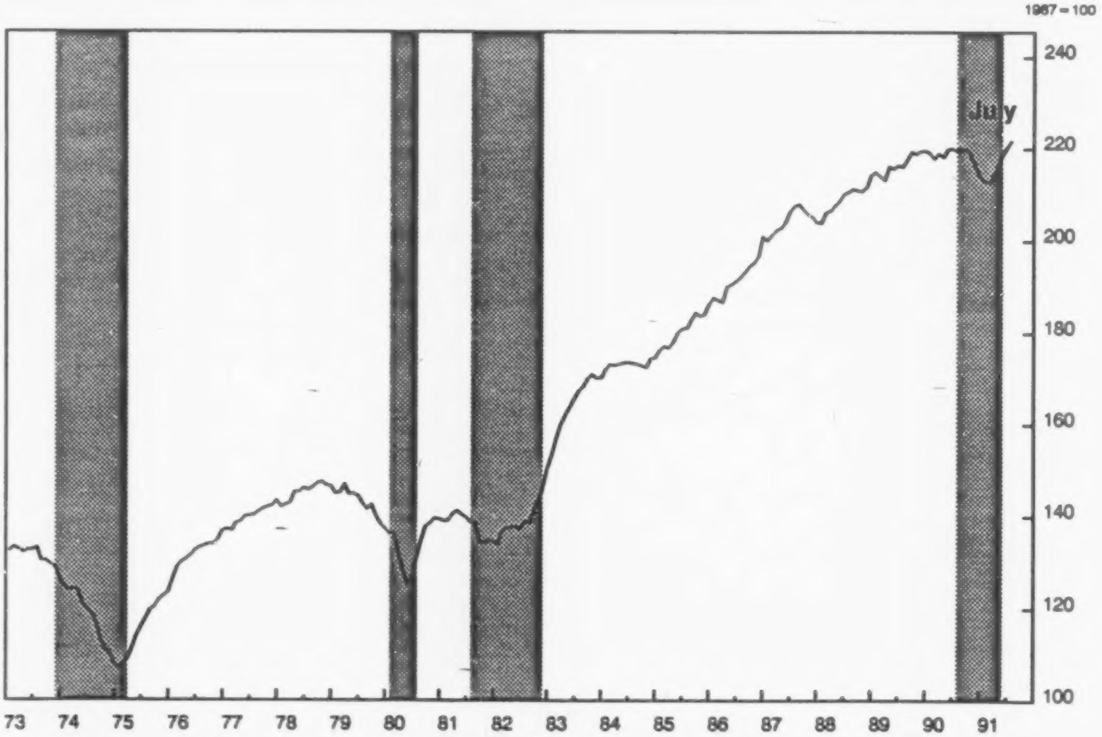
2. Has the 1990-91 Recession Ended?

Although it is too early to make a final decision regarding the end of the 1990-91 recession, there is considerable evidence pointing to May 1991 as the business cycle trough date. This would mean the recession lasted 10 months, from July 1990 to May 1991, close to the 11-month average length of the eight recessions since 1948.

Table A brings together the recent monthly figures for a number of measures of aggregate economic activity that are usually used to judge when business business cycle peaks and troughs have occurred. Most of them reached their lowest levels to date in March, April or May. The recovery became very widespread in June and July. Hence May seems to be a reasonable choice for a trough date, assuming, of course, that the recovery continues in succeeding months.

On that point the leading indicators are generally supportive. The CIBCR's latest and most comprehensive leading index, which includes 17 indicators, reached its low in February 1991, and has risen sharply since then. In fact, it reached new highs in June and July (see Chart A). Hence this leading index has completely recovered from the decline it sustained during the recession. The index includes six long leading indicators and eleven short leading indicators and has an excellent historical record of anticipating recoveries.

CHART A.
NEW LEADING INDEX, UNITED STATES (17 COMPONENTS)



Shaded areas are business cycle recessions. The May 1991 trough date is tentative.

Center for International Business Cycle Research, Columbia University Business School.

TABLE A.

MEASURES OF AGGREGATE ECONOMIC ACTIVITY IN THE UNITED STATES SINCE JANUARY 1991

		Monthly Data								Monthly Low to Date	Quarterly Data		Quarterly Low to Date
INDIVIDUAL INDICATORS	Unit	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.		I	II	
Total employment	mil.	118.5	118.5	118.2	118.9	118.0	118.4	118.3	118.0	Aug.	118.4	118.4	II
Nonfarm payroll employment	mil.	109.4	109.2	108.9	108.7	108.9	108.9	108.8	108.8	April	109.2	108.8	II
Nonfarm employee-hours	bil.	200.8	201.2	200.4	199.4	200.6	201.6	199.6	200.4	April	200.8	200.5	II
Unemployment rate, total	%	6.1	6.4	6.8	6.5	6.8	6.9	6.7	6.7	June	6.4	6.7	II
Industrial production index	1987-100	106.6	105.7	105.0	105.5	106.4	107.3	108.0	108.2	March	105.8	106.3	I
Real personal income excluding. trans. pay.	bil. 1982$	2838.3	2837.0	2845.2	2838.4	2847.5	2860.6	2853.4		Feb.	2840.2	2853.8	I
Real mfg. & trade sales	bil. 1982$	457.1	459.1	457.0	465.3	469.2	470.5			March	457.7	468.3	I
Real retail sales	bil. 1982$	117.1	119.7	120.3	119.8	120.3	120.1			Jan.	119.0	120.0	I
Bus. Week Production Index	1967-100	174.0	173.3	173.2	170.5	174.0	176.5	176.0	177.7	April	173.5	173.6	I
NAPM Production Survey	%	37.1	38.1	41.0	43.1	48.8	55.0	59.5		May[a]	38.7	50.0	I[a]
Real GNP	bil. 1982$										4124.1	4123.0	II
COMPOSITE INDEXES													
BEA Coincident Index	1982-100	127.3	126.6	126.0	126.2	126.9	127.2	126.9	...	March	126.6	126.8	II
IEI Coincident Index	1980-100	123.4	122.5	121.8	122.2	122.3	122.5	122.6	...	March	122.6	122.3	II
CIBCR Coincident Employment Index	1967-100	210.9	209.6	206.9	207.5	206.6	207.4	207.1	207.1	May	209.1	207.2	II
SUMMARY													
Number reaching low to date		1	1	4	3	2	1	0	1		6	8	

---

[a] Latest month or quarter below 50%.

Center for International Business Cycle Research, September 1991.

3. Improved Outlook for Unemployment

About six years ago we developed a way of using the CIBCR's leading employment index to forecast the unemployment rate. Applying that method to the leading index for June 1991, we find that the average unemployment rate during the six months from July to December is forecast to be 6.0%, well below the 6.6% reported for the first half of 1991. Even though unemployment does not usually turn down promptly in an economic recovery, there is evidence that June may have been the high for this recession, at 6.9%. The July and August figures were 6.7%. Moreover, the leading employment index reached its low to date last February and has moved up every month since. The leading index has usually led downturns in unemployment by around two to six months, so the 4-month lead from February to June would not be unusual.

A brief look at the forecasting record of the leading employment index since 1985, shown in Chart B, gives one some confidence in what it is saying. The method was set up to forecast the change in the average unemployment rate during six-month spans spaced three months apart. That is, the average rate from July to December is compared with the average rate from the preceding October to March. The averaging and the spacing gets rid of most of the irregular fluctuations due to unusual weather, etc, and leaves the major cyclical swings exposed. These changes are then forecast by the six-month smoothed growth rate in the leading employment index for the month preceding the second of the two six-month spans, which we call the "target span." In the present case the average unemployment rate from October 1990 through March 1991 was 6.1%, while the leading employment index growth rate for June 1991 was 3.7%. According to the 1949-85 regression equation shown in the note to Chart B, the forecast change in the unemployment rate, from the October-March 1991 average to the July-December 1991 average would be -0.1%. Hence the forecast average level for July-December is 6.0%.

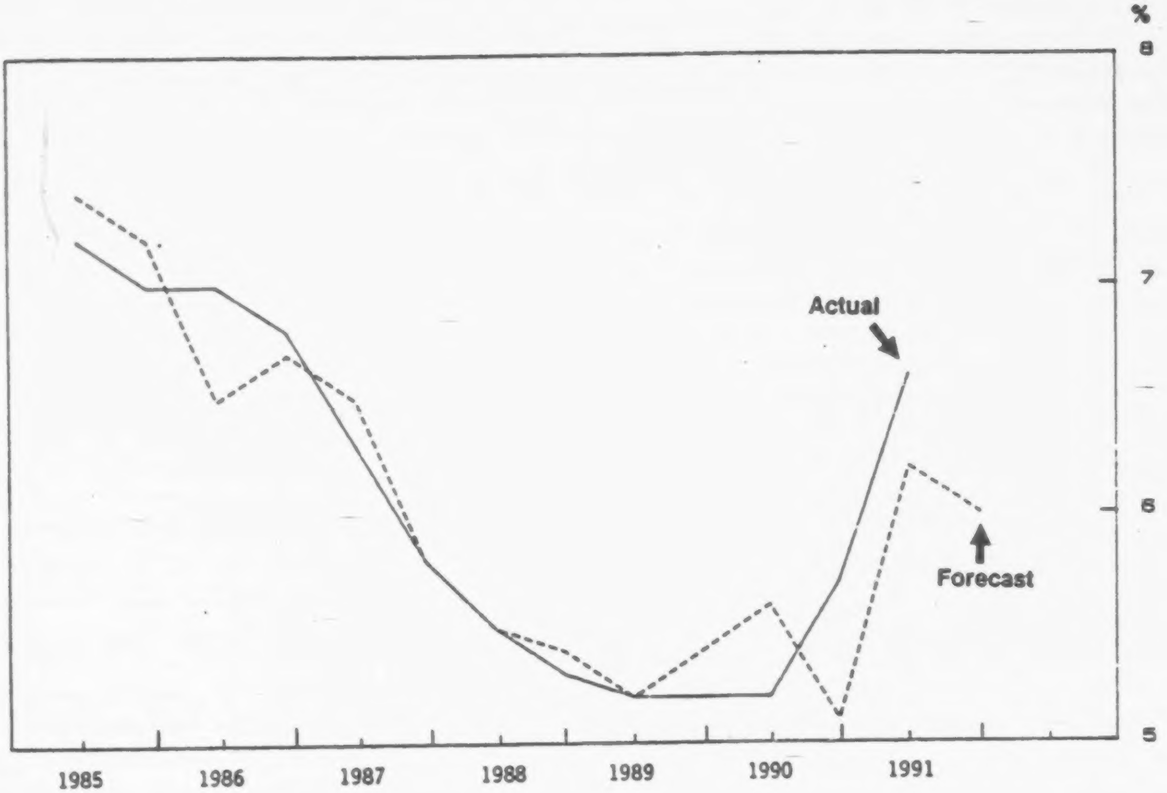
The leading index has this forecasting capability because it includes six indicators that move early in the process of getting people into jobs or removing them. Initial claims for unemployment insurance is one such indicator; the layoff rate is another; overtime hours and the average workweek are others with this property.

During the period 1949-1985, upon which our original study was based, the swings in the growth rate in the leading employment index accounted for 83% of the subsequent variation in the changes in the unemployment rate, measured as described above. The simple relationship obtained from 1949-1985 has been applied to the subsequent data, despite the fact that the leading employment index has since been revised to include one more component. We find that the relationship does not work quite as well since 1985 as before, but nevertheless accounts for 66% of the variation in the unemployment rate change. The mean absolute error in the forecasts is indeed a bit smaller in the recent period, namely 0.2 percentage points instead of 0.3 points.

4. Length of Recovery Depends on Depth of Recession

One of the findings from a study of recessions conducted in 1958 was that the length of time it took for the U.S. economy to regain its previous peak level after a recovery had started depended on the magnitude of the drop during the recession. Recoveries from mild recessions took much less time than recoveries from sharp recessions. This not unexpected result held up nicely during the seven recessions and recoveries between 1921 and 1955. Once a recession is

CHART B.
FORECAST AND ACTUAL SEMI-ANNUAL UNEMPLOYMENT RATES, 1985-91



Rates are averages for each half-year. Forecasts are based on the growth rate in leading employment index (LIGR) for the month preceding the half-year being forecast, using a regression fitted to half-yearly data for 1949-85. The regression equation is DUR = 0.6 minus 0.2(LIGR). The correlation (RSQ) for 1949-85 is 0.66. DUR is the change in the unemployment rate over six-month spans with a three-month interval between the spans. See Moore, Geoffrey H., Forecasting Unemployment with the Leading Employment Index, *Economic Forecasts, A Worldwide Survey*, Vol. 2, No. 12, December 1985, Elsevier Science Publishers, B.V., Amsterdam.

Center for International Business Cycle Research, September, 1991.

known, or believed, to be over, one can predict how long the recovery will last. How has this relationship held up since 1955?

We can test this by fitting a regression to the pre-1955 results and seeing how well it would predict the subsequent recoveries. Table B shows that it did very well, using the index of industrial production to measure both the depth of recession and the length of recovery. Two linear regressions were fitted to the pre-1955 data, one including the Great Depression of 1929-33 and the protracted recovery from 1933 to 1936, and the other excluding that extreme case. Both regressions fit well, with RSQ's of 0.85 and 0.94, respectively. Both regressions are used in Table B to forecast the length of recoveries since 1958, but the one excluding the Great Depression seems to give more reasonable results.

If the 1990-91 recession ended in May 1991, as we now believe, the recovery in industrial production to its level at the July 1990 business cycle peak will take either two or six months, depending on which of the earlier regressions is used. That is, industrial production should make its recovery by July or November 1991. The actual figures for July show that it fell short of this. During the business recession from July 1990 to May 1991 the index fell from 110.3 to 106.4. By July 1991 it had recovered to 108.0, and in August it was 108.2, so it still has some way to go to

TABLE B.
SEVERITY OF RECESSIONS AND LENGTH OF RECOVERIES, 1920-91

Business Cycle Recessions		Percent Change in Industrial Production during Recession	Date When Peak Level of Industrial Production was Regained	Length of Recovery in Months		
Peak (1)	Trough (2)	(3)	(4)	Actual (5)	Estimate A (6)	Estimate B (7)
1/20	7/21	-29.0	10/22	15	21	15
5/23	7/24	-16.3	7/25	12	12	11
10/26	11/27	-5.7	6/28	7	4	7
8/29	3/33	-50.1	11/36	44	37	23
5/37	6/38	-31.5	10/39	16	23	16
11/48	10/49	-7.7	4/50	6	5	8
7/53	8/54	-9.5	5/55	9	7	8
8/57	4/58	-11.8	1/59	9	8	9
4/60	2/61	-6.0	7/61	5	4	7
12/69	11/70	-5.2	10/71	11	4	7
11/73	3/75	-15.0	8/76	17	11	10
1/80	7/80	-8.4	6/81	11	6	8
7/81	11/82	-12.1	9/83	10	9	9
7/90	5/91*	-3.5	n.a.	n.a.	2	6

*Tentative.

Note: Estimate A, col. 6 is based on regression fitted to entries in cols. 3 and 5 covering seven recessions, 1921-54. the 1921-54 data are from Moore, G.H., (161), *Business Cycle Indicators*, National Bureau of Economic Research, by Princeton University Press, p. 144. The regression equation is:

Length of Recovery(months) = -0.3-0.743(% Decline in Indus. Prod.)

R = -.92 RSQ = .85

Estimate B, col. 7, is based on regression covering six recessions, 1921-54, omitting 1929-33. The regression equation is:

Length of Recovery(months) = 4.8-0.362(% Decline in Indus. Prod.)

R = -.97 RSQ = .94

Source: Center for International Business Cycle Research, September 1991.

regain the peak level. November 1991 remains a possible recovery date, in which case the recovery would be one of the quickest in our 70-year record.

5. Lag in the Prime Rate Forecasts Length of Expansion

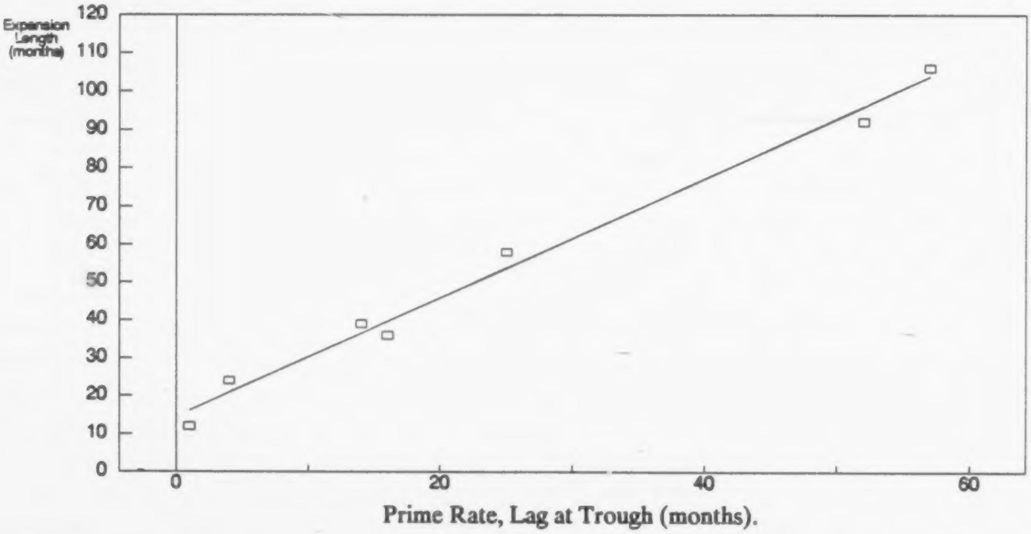
Although the recovery period tends to be short when a recession has been mild, that does not imply that the business cycle expansion, which usually extends well beyond the recovery, will also be short. That depends on other factors, and one of them is the behavior of the prime rate — the interest rate that banks charge their best customers.

The prime rate usually declines during the later stages of a recession and early stages of the ensuing expansion. That makes it a lagging indicator. We have found that the length of the lag in the prime after business cycle upturns is very closely correlated with the length of the expansion. (See Chart C). This means that the longer the interval before the prime rate starts to climb during the expansion, the longer the expansion is likely to be. A declining rate tends to stimulate borrowing and has widespread effects on investment in plant and equipment, residential construction, inventory build-ups, durable goods purchases, etc.

The regression relationship shown in the chart can therefore be used to forecast the length of expansions once the lag in the prime rate is known. The length of expansion is 15 months plus 1.6 times the lag in months. Currently, the decline in the prime rate in mid-September means that the lag will be at least 4 months (from May to September). This in turn implies that the expansion will last at least 21 months, that is, until the end of 1992.

Earlier studies at CIBCR and by Professor Phillip Cagan at Columbia indicate that this type of relationship between lags in interest rates and lengths of expansions (and contractions) has persisted for more than a century. See the April 1986 and May 1990 issues of *Recession-Recovery Watch*.

CHART C.
PRIME RATE LAGS AND THE LENGTH OF BUSINESS CYCLE EXPANSIONS, 1954-90



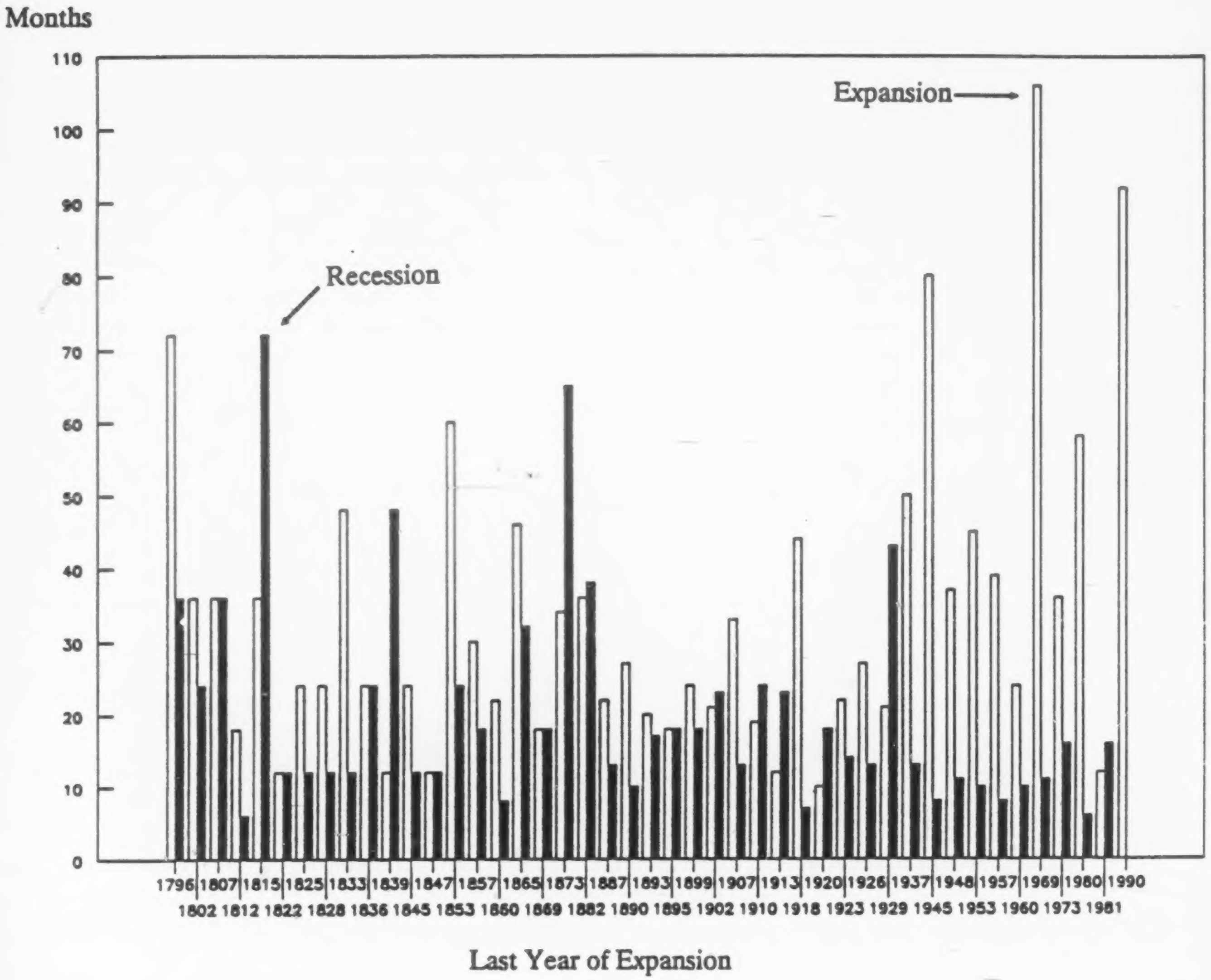
6. A 200-Year Record of Recessions and Expansions

The recession that began in July 1990 is the 45th in a record that begins in 1790. Many of the early recessions lasted two or three years, but in recent times they have become shorter and less frequent. None of the recessions since 1937 lasted more than 16 months, whereas 20 of the 34 recessions before 1937 lasted longer than 16 months. The average length before 1937 was 23 months; since then, the average has been 11 months. There has been a similar shift towards longer expansions (see Chart D).

A number of changes in the U.S. economy account for this trend. The services sector has grown far more rapidly than the goods-producing industries. The latter have been less dominated by a rising growth trend, so that recessions in the goods industries are usually longer relative to expansions than is true of the service industries. With the service industries playing a more important role, expansions have stretched out and recessions are briefer. In addition, the government since the 1930's has been providing unemployment insurance, welfare payments and bank deposit insurance, which helps to maintain incomes and supports business and consumer confidence during recessions. The Federal Reserve Board, established in 1914, influences interest rates and credit creation in its efforts to stabilize the economy, evidently with some success.

CHART D.

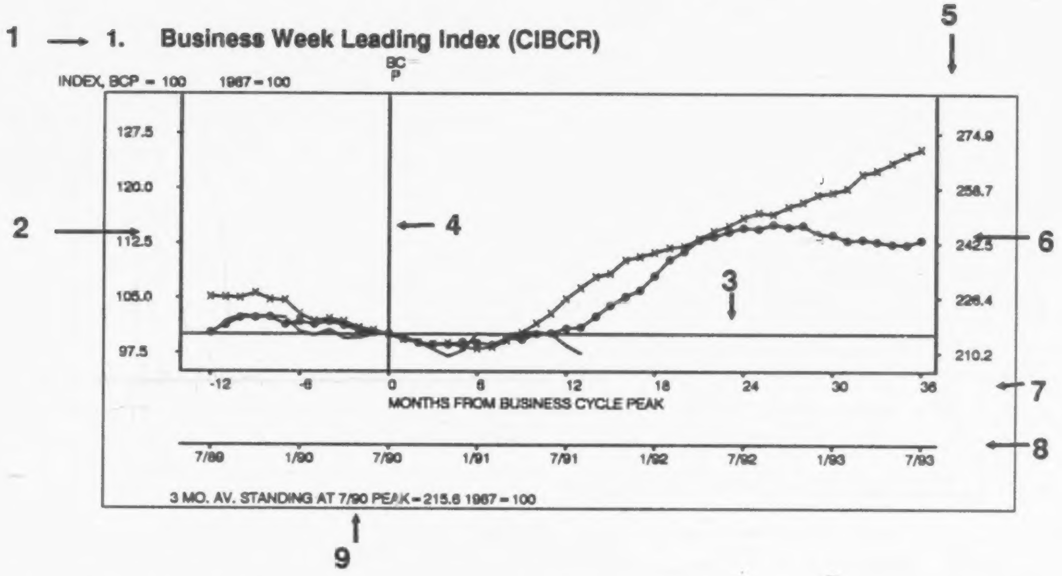
LENGTH OF BUSINESS RECESSIONS AND EXPANSIONS, UNITED STATES, 1790-1990



Source: Compiled from data supplied by the National Bureau of Economic Research

Center for International Business Cycle Research, July 1991.

HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the *actual level* rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in *both* current and past recessions as a percentage of business cycle peak (BCP) standings. This is the common vertical scale along which the recessions are compared.

3 HORIZONTAL LINE shows levels at reference peak (100) for current and past recessions.

4 VERTICAL LINE represents reference peak dates for current and past recessions which are all aligned so that the business cycle peak (BCP) dates are positioned on the vertical line; i.e., the peaks of past recessions are aligned with the current peak to facilitate comparison.

5 UNITS for right-hand scale refer *only* to the *current* peak.

6 RIGHT-HAND SCALE refers *only* to the *current* recession. It is a transformation of the left-hand scale to show the current recession in original units rather than with peak standing at 100.

7 HORIZONTAL SCALE measures months from business cycle peak (BCP) for *both* the current and past recessions. This is the common time scale along which the recessions are compared.

8 ACTUAL DATES refer only to the current recession.

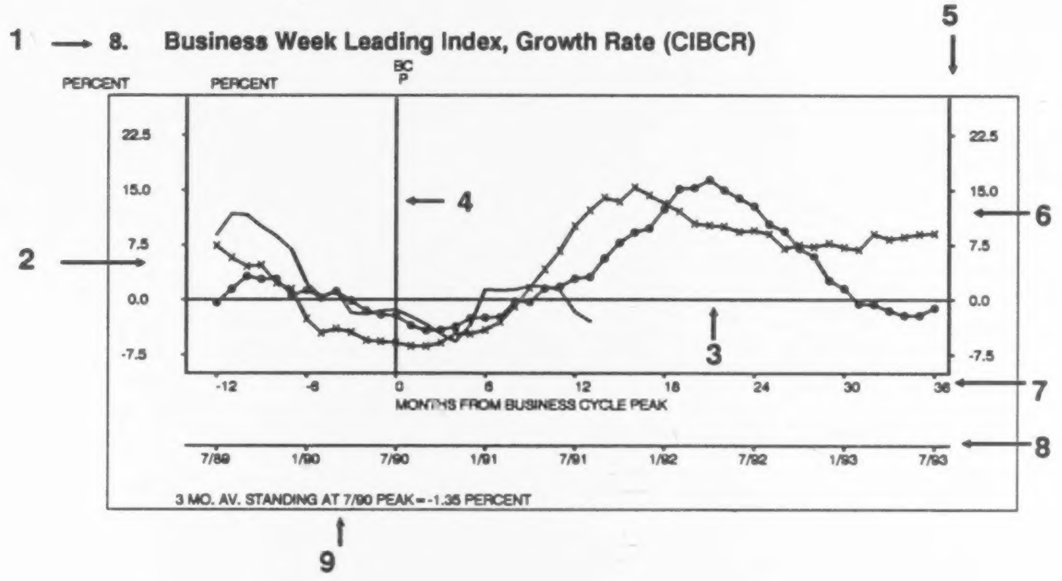
9 STANDING AT THE PEAK is the level at which the *current* recession began, and is calculated as the 3-month average centered on the peak month.

o-o-o-o-o-o-o-o LINE WITH CIRCLES indicates average over 5 severe recessions (1948-49, 1953-54 1957-58, 1973-75, and 1981-82).

xxxxxxxx LINE WITH CROSSES indicates average of over 2 mild recessions (1960-61 and 1969-70).

———— SOLID LINE indicates the current recession, assumed to have begun in June 1990, or Q3, 1990.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed *growth rate*, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for *both* current and past recessions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past recessions.

4 VERTICAL LINE represents reference peak dates for current and past recessions, which are aligned so that the business cycle peak (BCP) dates are positioned on the vertical line; i.e., the peaks of past recessions are aligned with the current peak to facilitate comparison.

5 UNITS for both scales in percent refer to growth rates for *both* current and past recessions.

6 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for *both* current and past recessions.

9 HORIZONTAL SCALE measures months from business cycle peak (BCP) for *both* current and past recessions. This is the common time scale along which the recessions are compared.

10 ACTUAL DATES refer *only* to the *current* recession.

11 STANDING AT THE PEAK is the growth rate at the time the current recession began, and is calculated as the 3-month average centered on the peak month.

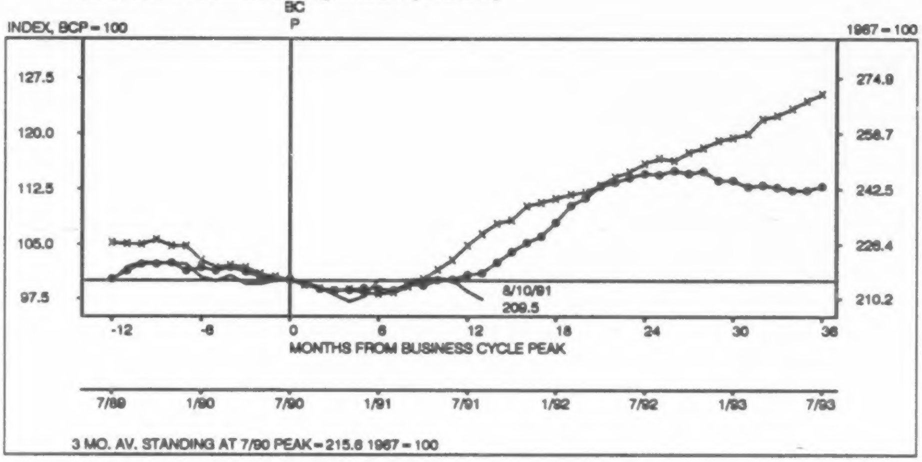
o-o-o-o-o-o-o LINE WITH CIRCLES indicates average over 5 severe recessions (1948-49, 1953-54 1957-58, 1973-75, and 1981-82).

×××××××× LINE WITH CROSSES indicates average of over 2 mild recessions(1960-61, 1969-70).

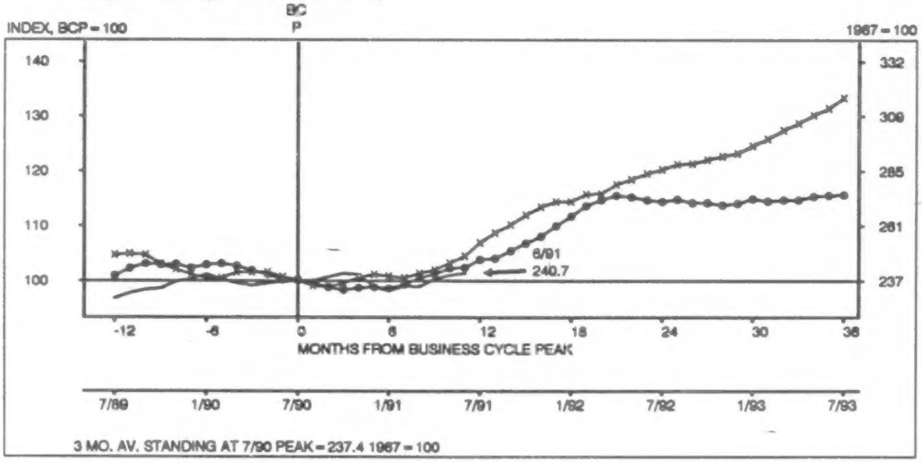
———————— SOLID LINE indicates the current recession, assumed to have begun in June 1990, or Q3, 1990.

Composite Indexes

1. Business Week Leading Index (CIBCR)

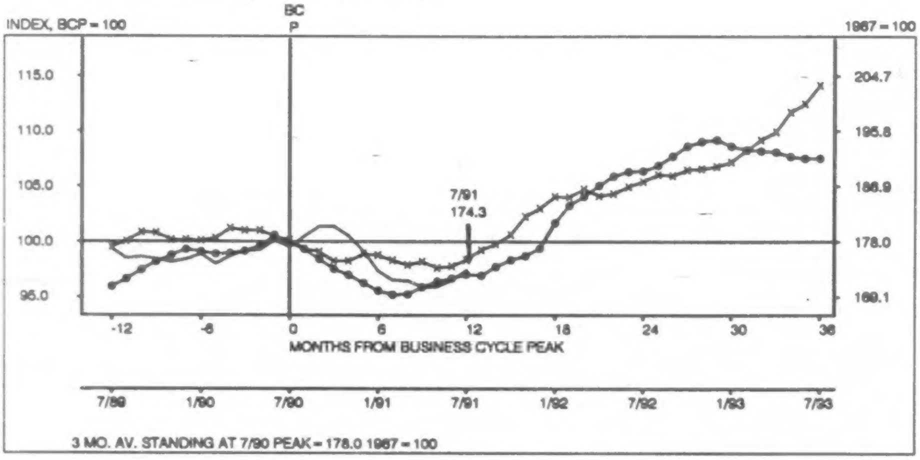


2. Long-Leading Index (CIBCR)

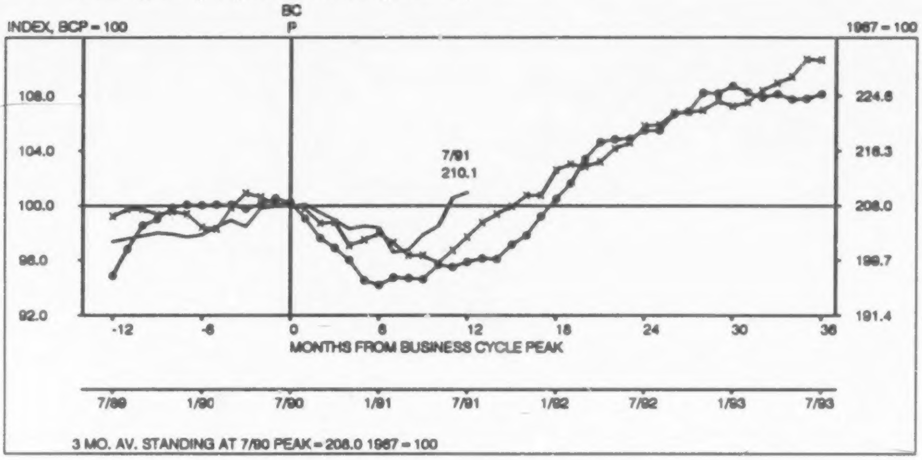


The Long-Leading Index is creeping up more slowly than in most recoveries, suggesting modest growth in the economy in 1992.

3. N.A.P.M. Leading Index (CIBCR)

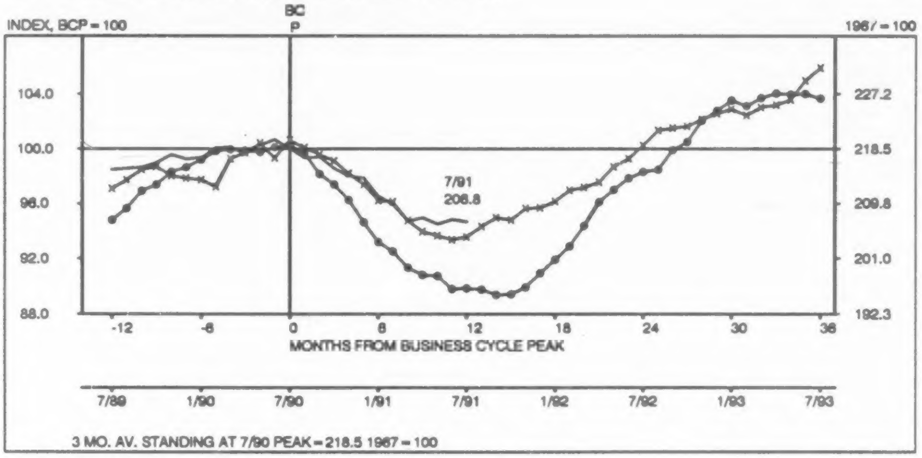


4. Leading Employment Index (CIBCR)



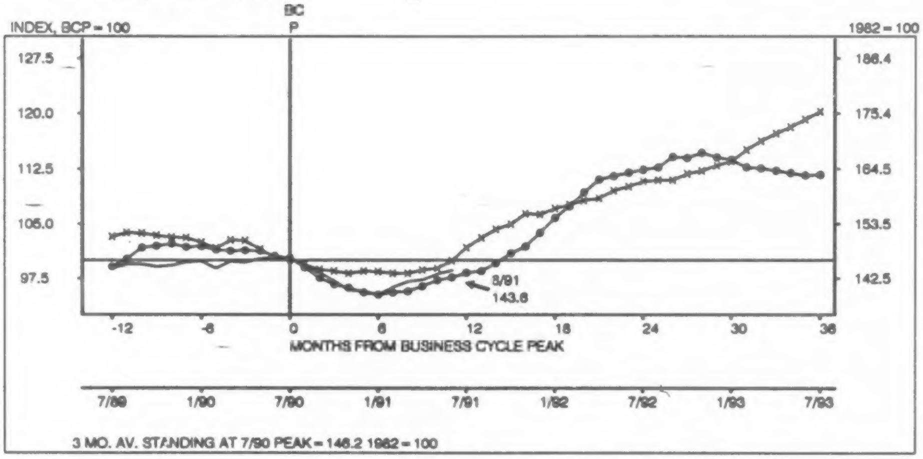
3 MO. AV. STANDING AT 7/90 PEAK = 208.0 1967 = 100

5. Coincident Employment Index (CIBCR)



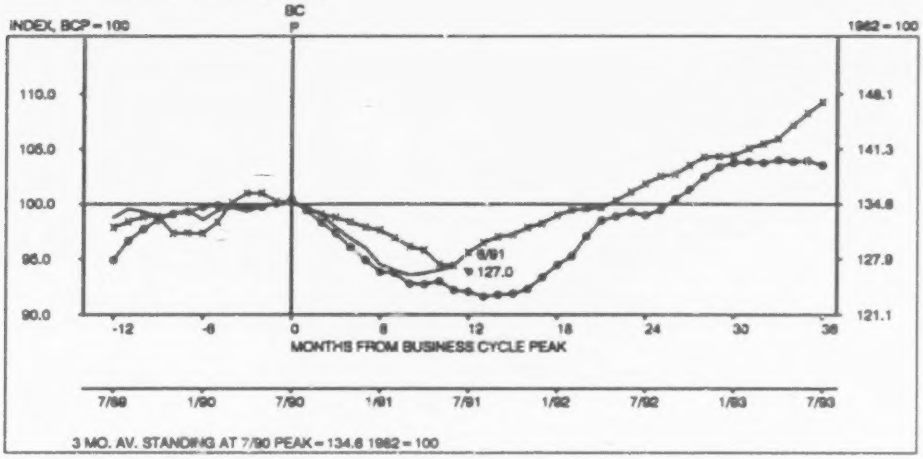
3 MO. AV. STANDING AT 7/90 PEAK = 218.5 1967 = 100

6. Leading Index (BEA)



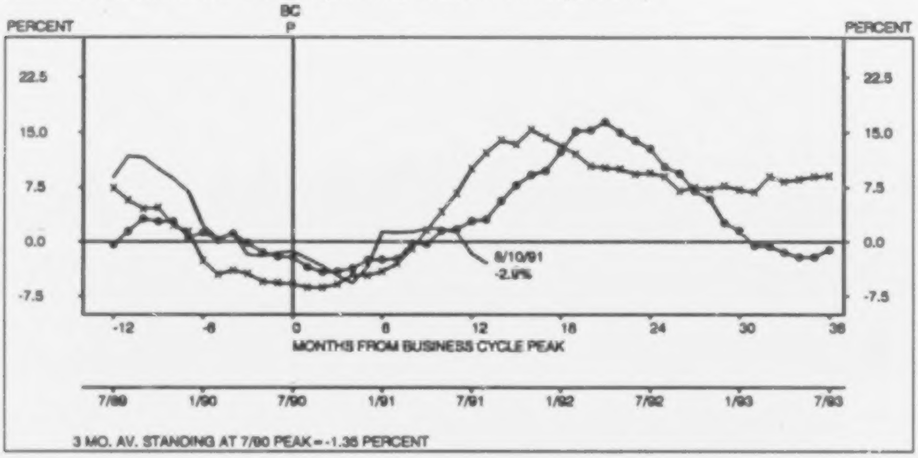
3 MO. AV. STANDING AT 7/90 PEAK = 146.2 1982 = 100

7. Coincident Index (BEA)



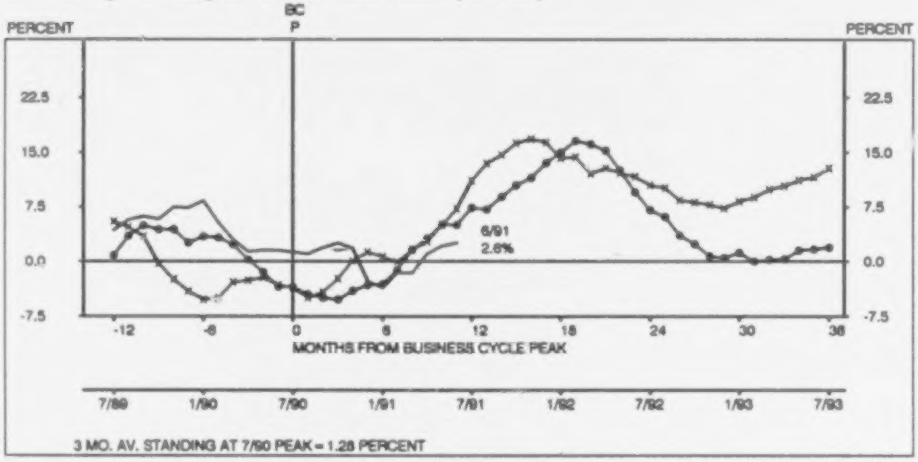
3 MO. AV. STANDING AT 7/90 PEAK = 134.6 1982 = 100

8. Business Week Leading Index, Growth Rate (CIBCR)



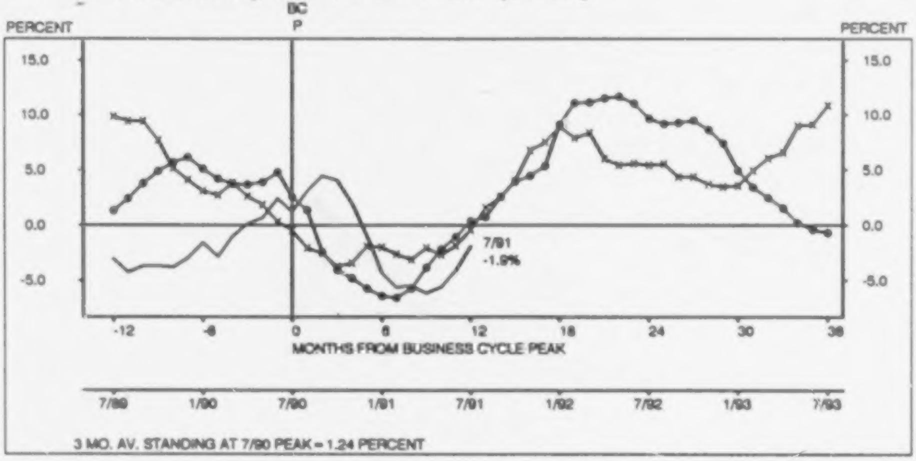
3 MO. AV. STANDING AT 7/90 PEAK = -1.36 PERCENT

9. Long-Leading Index, Growth Rate (CIBCR)



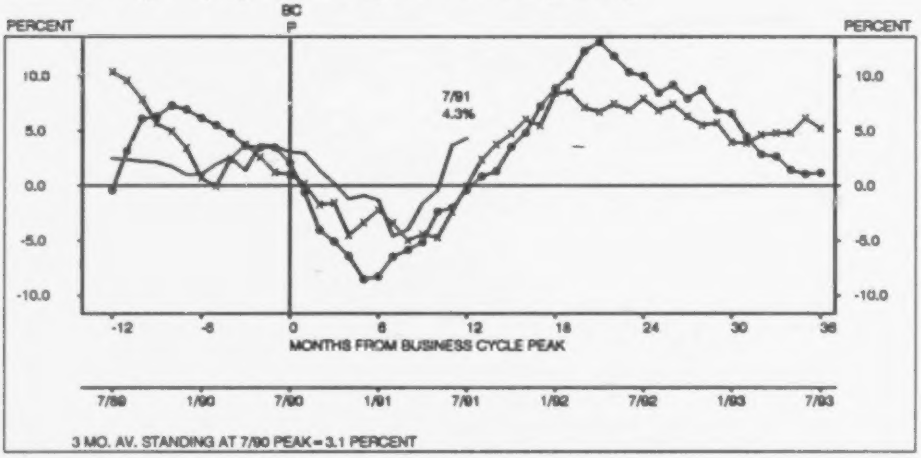
3 MO. AV. STANDING AT 7/90 PEAK = 1.28 PERCENT

10. N.A.P.M. Leading Index, Growth Rate (CIBCR)



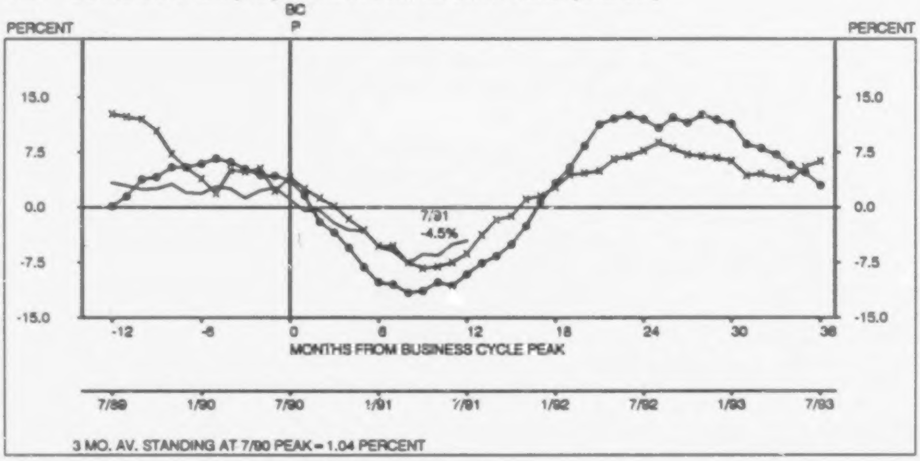
3 MO. AV. STANDING AT 7/90 PEAK = 1.24 PERCENT

11. Leading Employment Index, Growth Rate (CIBCR)



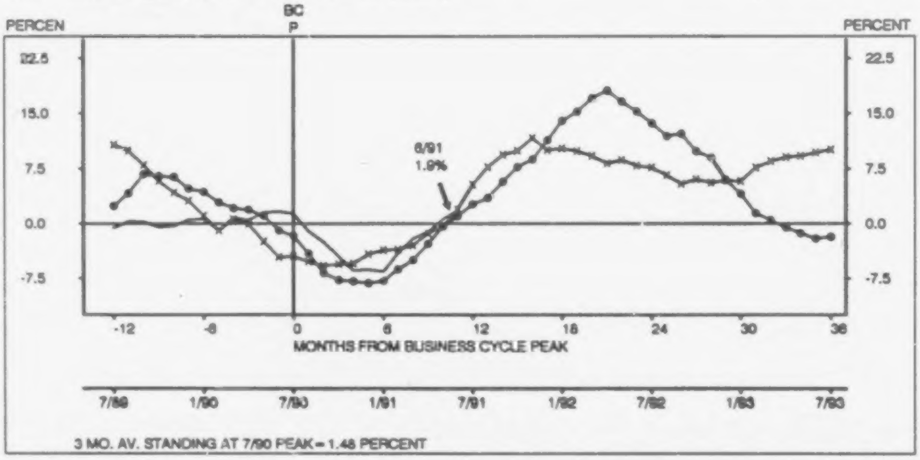
3 MO. AV. STANDING AT 7/90 PEAK = 3.1 PERCENT

12. Coincident Employment Index, Growth Rate (CIBCR)



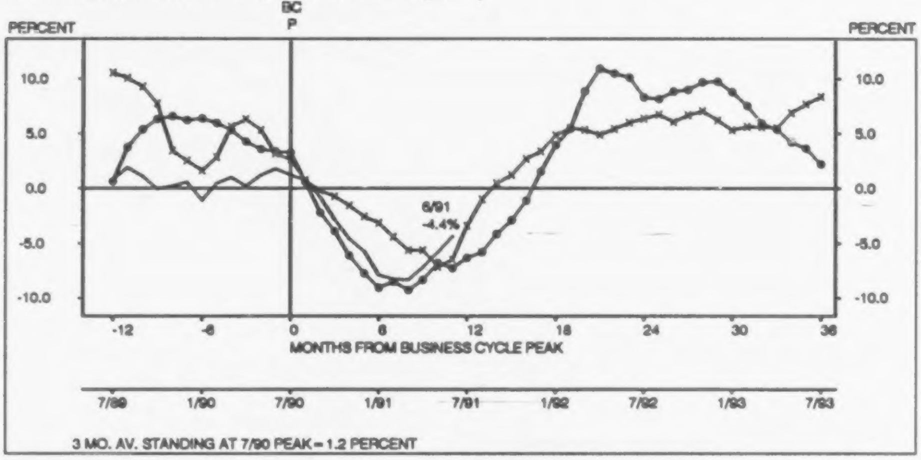
3 MO. AV. STANDING AT 7/90 PEAK = 1.04 PERCENT

13. Leading Index, Growth Rate (BEA)



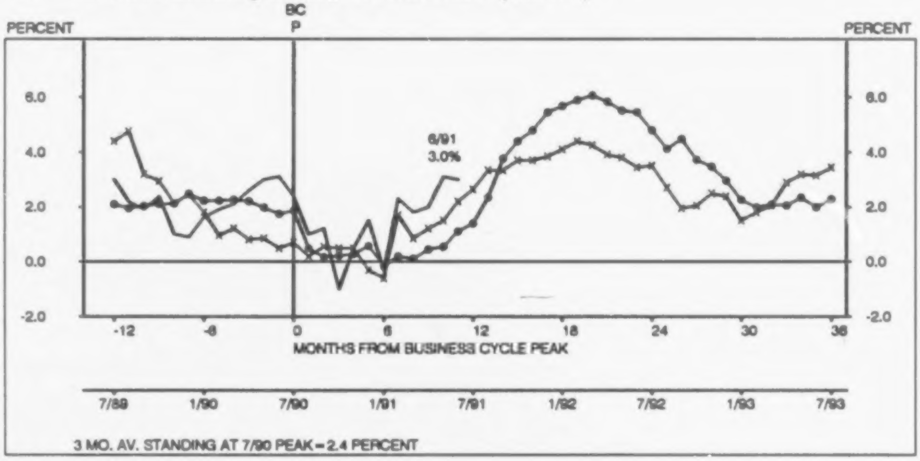
3 MO. AV. STANDING AT 7/90 PEAK = 1.48 PERCENT

14. Coincident Index, Growth Rate (BEA)



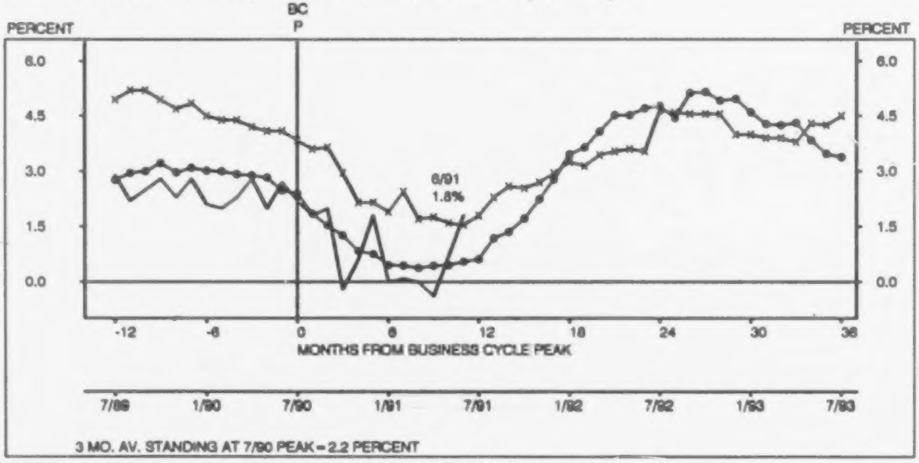
3 MO. AV. STANDING AT 7/90 PEAK = 1.2 PERCENT

15. Services Leading Index, Growth Rate (CIBCR)



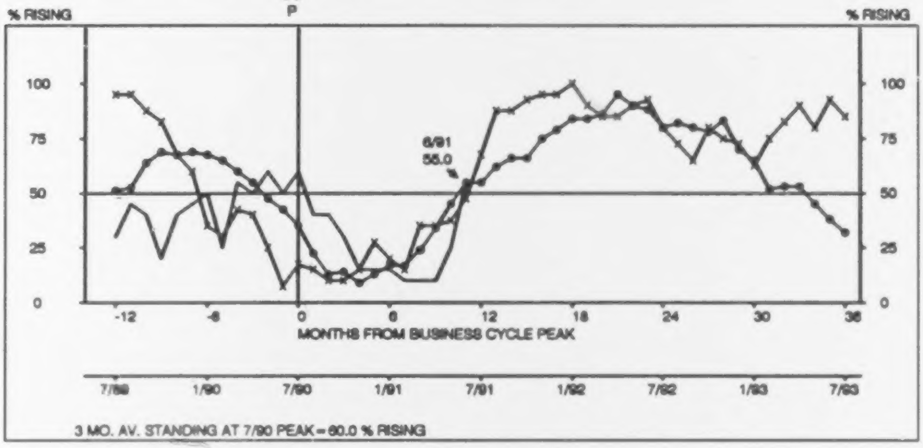
3 MO. AV. STANDING AT 7/90 PEAK = 2.4 PERCENT

16. Services Coincident Index, Growth Rate (CIBCR)

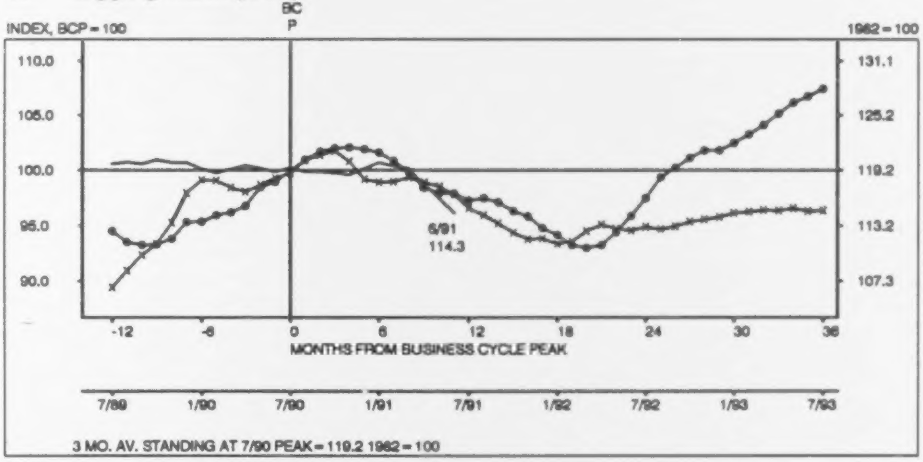


3 MO. AV. STANDING AT 7/90 PEAK = 2.2 PERCENT

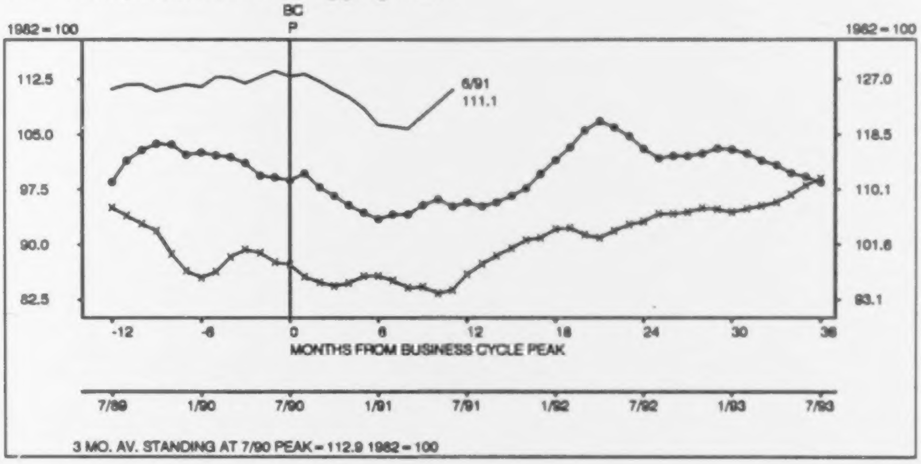
17. Diffusion Index of Leading Indicators (CIBCR)



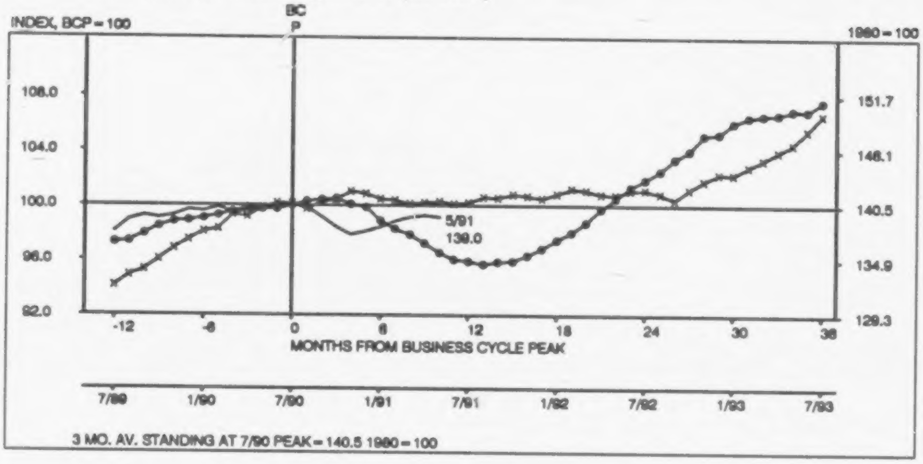
18. Lagging Index (BEA)



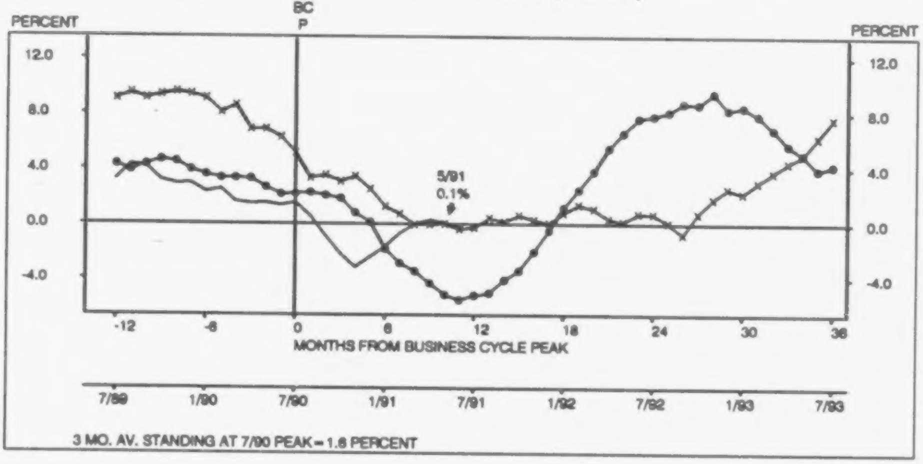
19. Ratio, Coincident to Lagging Index



20. Ten-Country* Leading Index (CIBCR)**



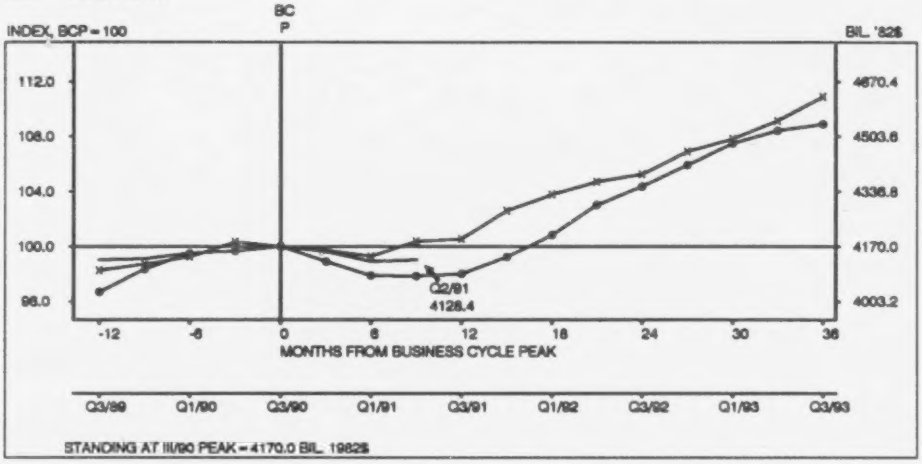
21. Ten-Country* Leading Index, Growth Rate (CIBCR)**



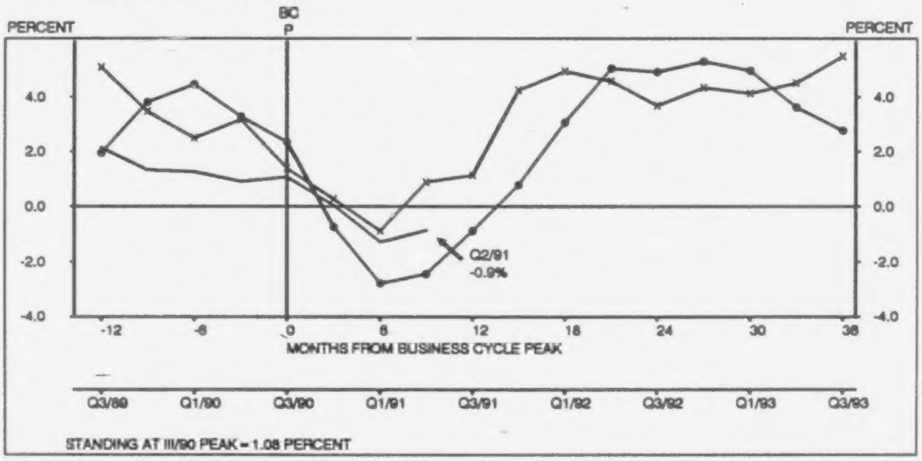
*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

**1948-49 and 1953-54 recessions omitted from average of severe recessions, because series begin later.

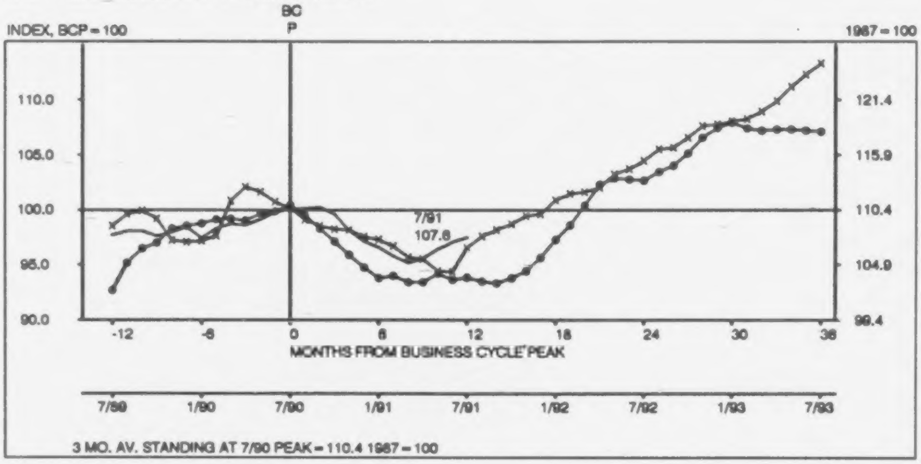
22. Real GNP



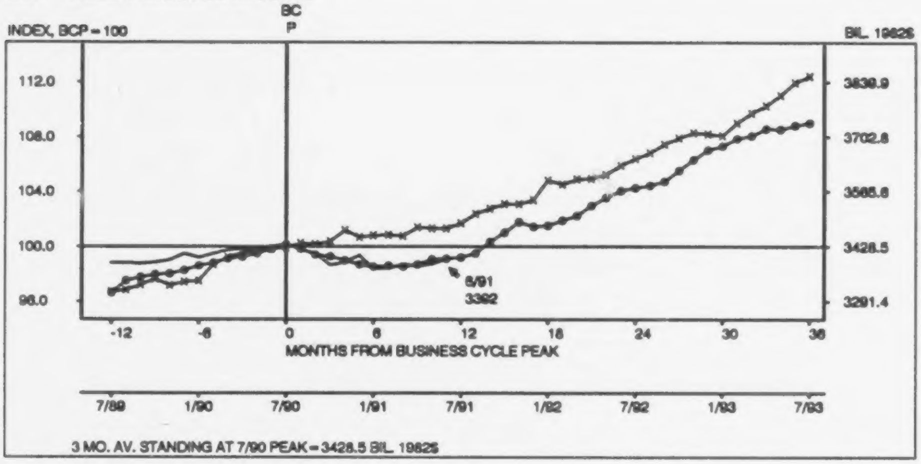
23. Real GNP, Growth Rate



24. Industrial Production Index

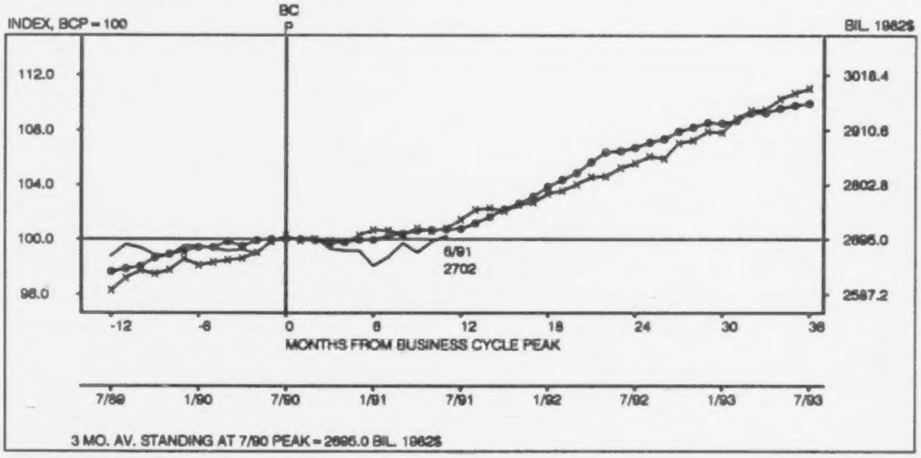


25. Real Personal Income



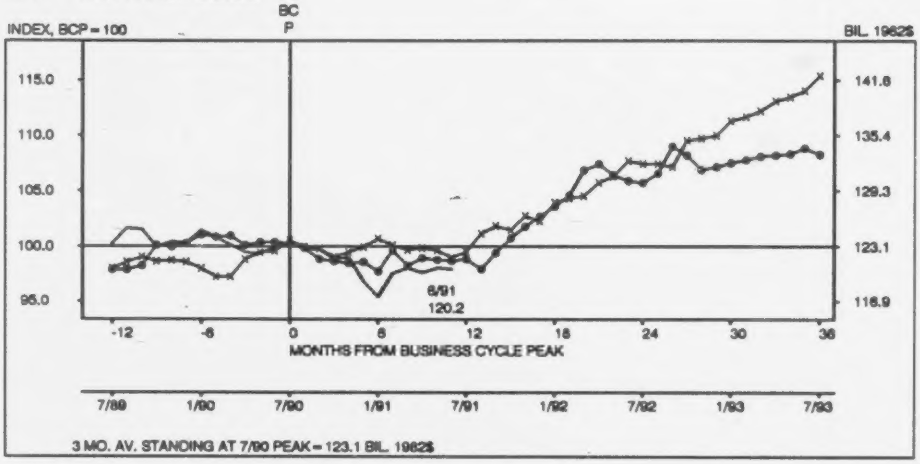
3 MO. AV. STANDING AT 7/90 PEAK = 3428.5 BIL. 1982$

26. Real Consumer Expenditures



3 MO. AV. STANDING AT 7/90 PEAK = 2695.0 BIL. 1982$

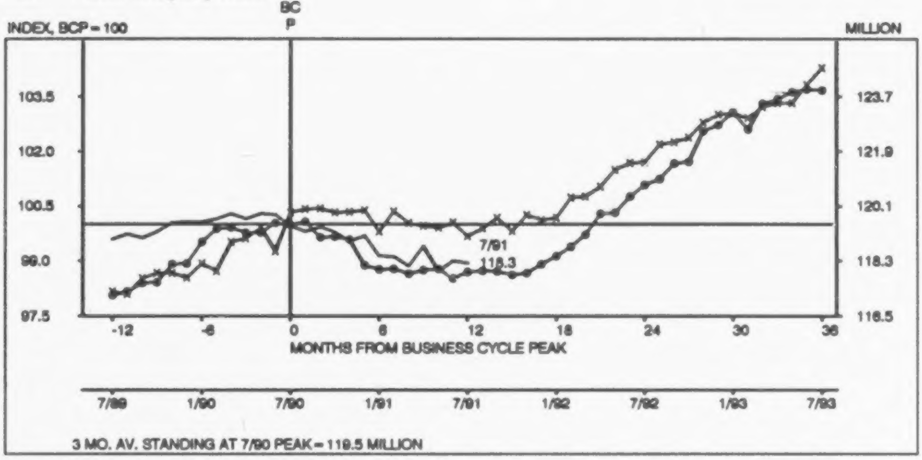
27. Real Retail Sales



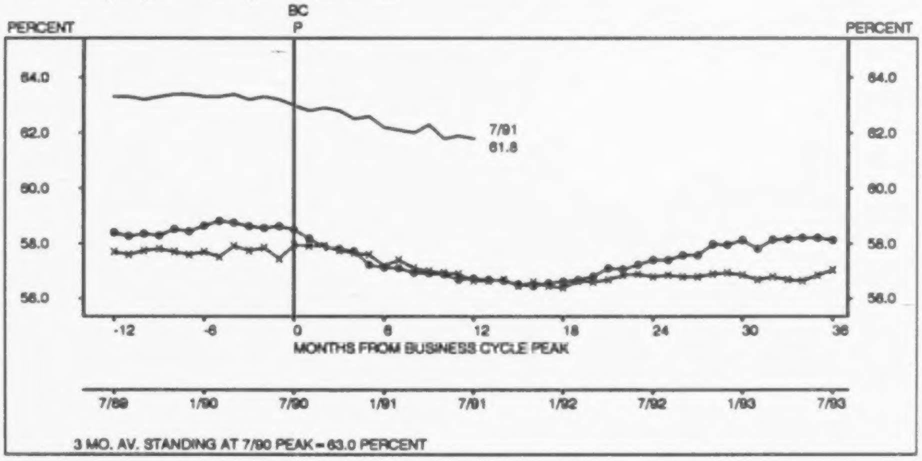
3 MO. AV. STANDING AT 7/90 PEAK = 123.1 BIL. 1982$

Personal Income, Consumer Expenditures and Retail Sales show patterns worse than the average even for severe recessions, showing that the consumer is unable or unwilling to give this recovery a real boost.

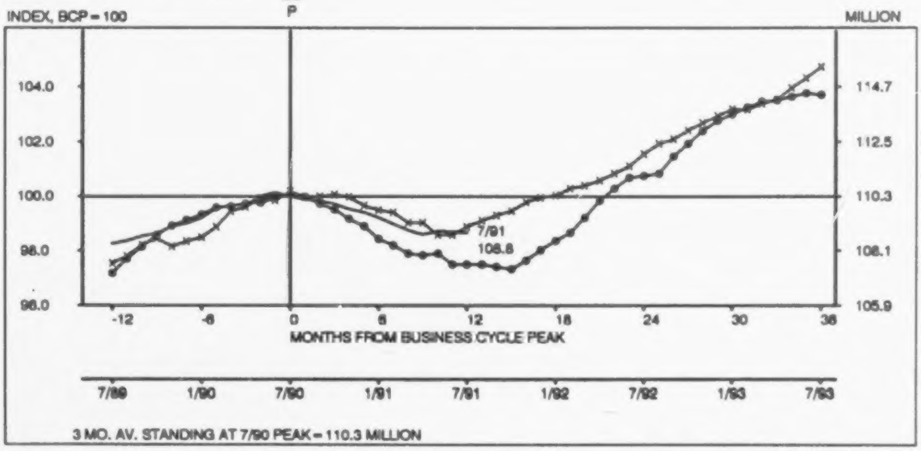
28. Total Employment



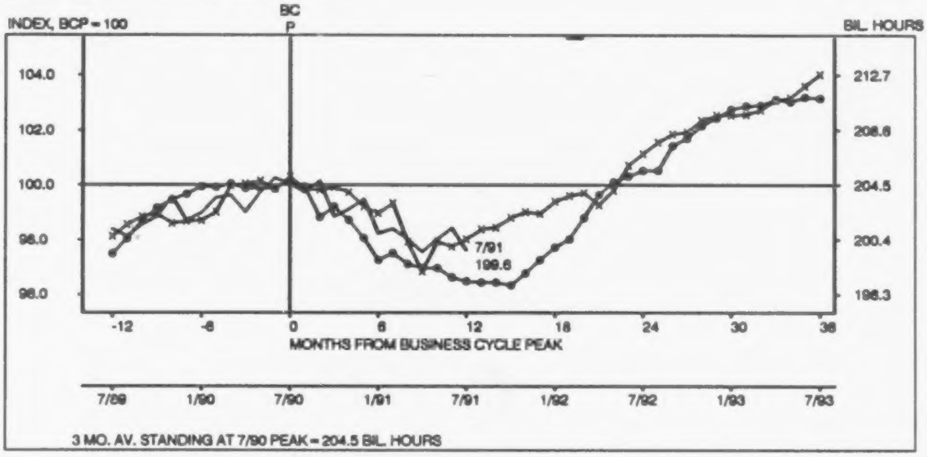
29. Employment/Population Ratio



30. Nonfarm Employment

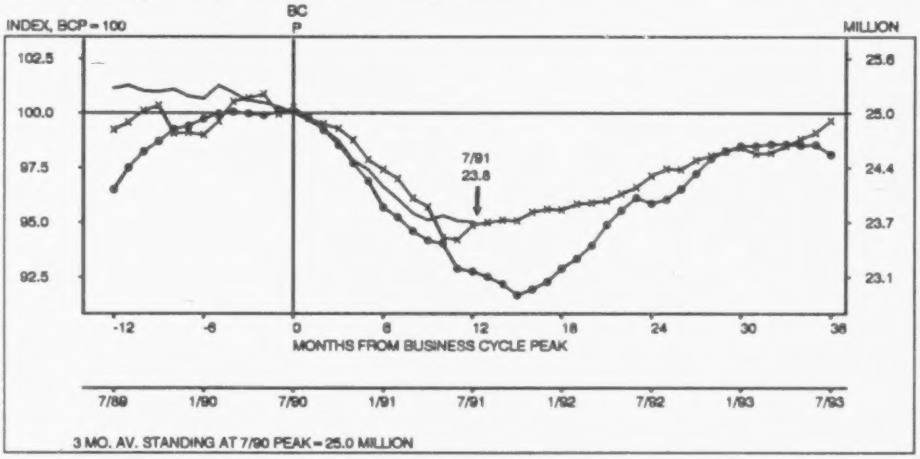


31. Nonfarm Employee-Hours



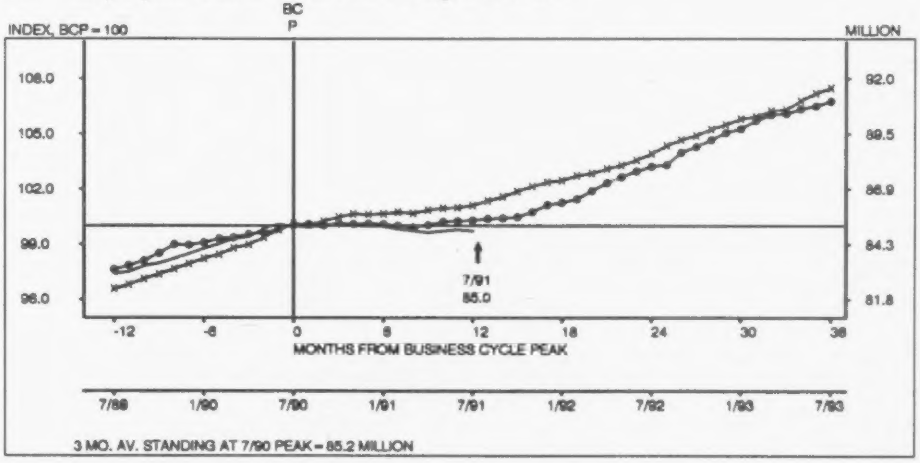
3 MO. AV. STANDING AT 7/90 PEAK = 204.5 BIL. HOURS

32. Employment in Goods-Producing Industries



3 MO. AV. STANDING AT 7/90 PEAK = 25.0 MILLION

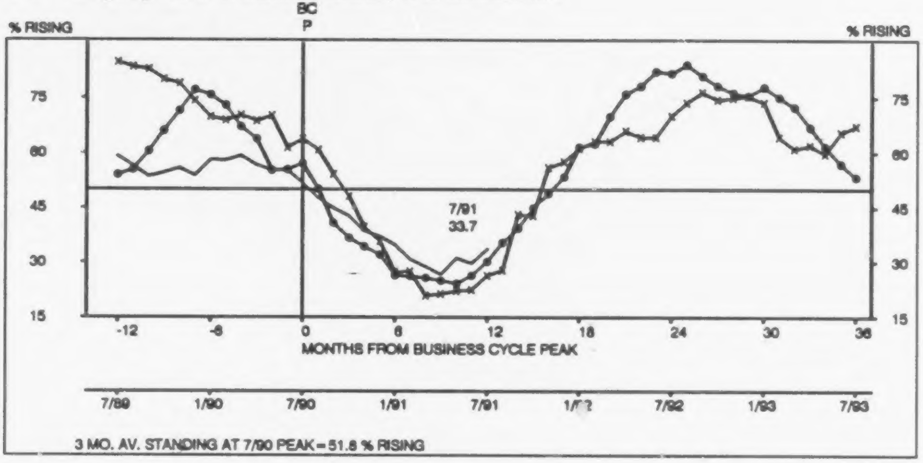
33. Employment in Service-Producing Industries



3 MO. AV. STANDING AT 7/90 PEAK = 85.2 MILLION

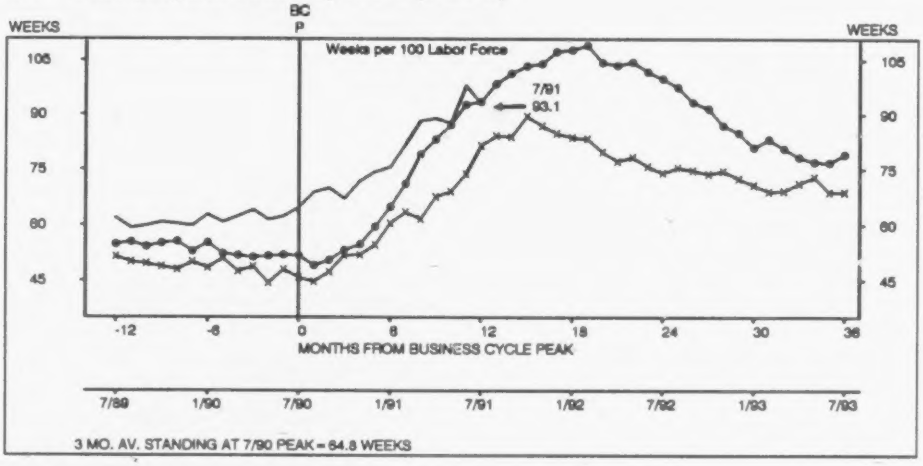
As the economy bottoms out, employment trends in goods-producing industries are close to patterns that follow mild recessions, but trends in service-producing industries are worse than the average patterns following severe recessions.

34. Employment Diffusion Index, 349 Industries



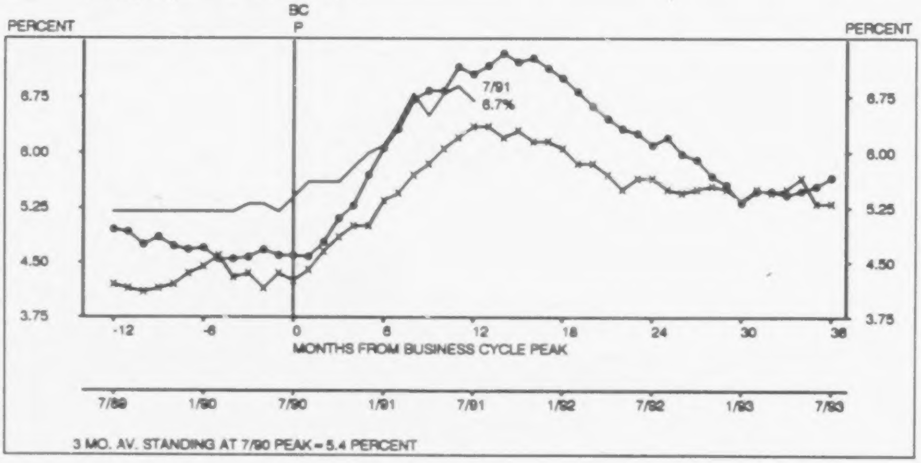
3 MO. AV. STANDING AT 7/90 PEAK = 51.8 % RISING

35. Unemployment Severity Index (CIBCR)



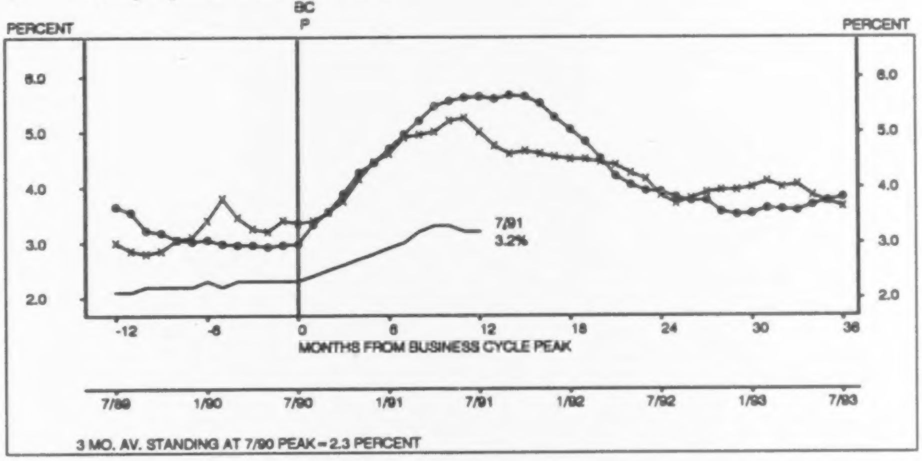
3 MO. AV. STANDING AT 7/90 PEAK = 64.8 WEEKS

36. Unemployment Rate, Total



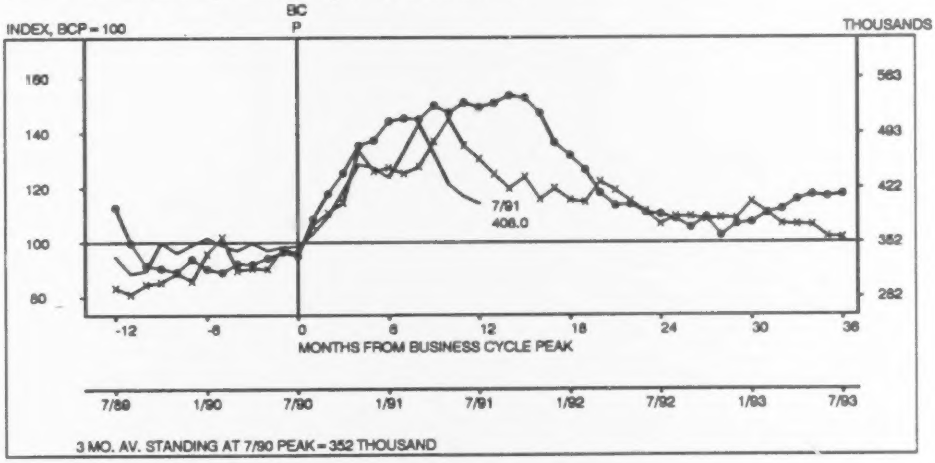
3 MO. AV. STANDING AT 7/90 PEAK = 5.4 PERCENT

37. Unemployment Rate, Insured



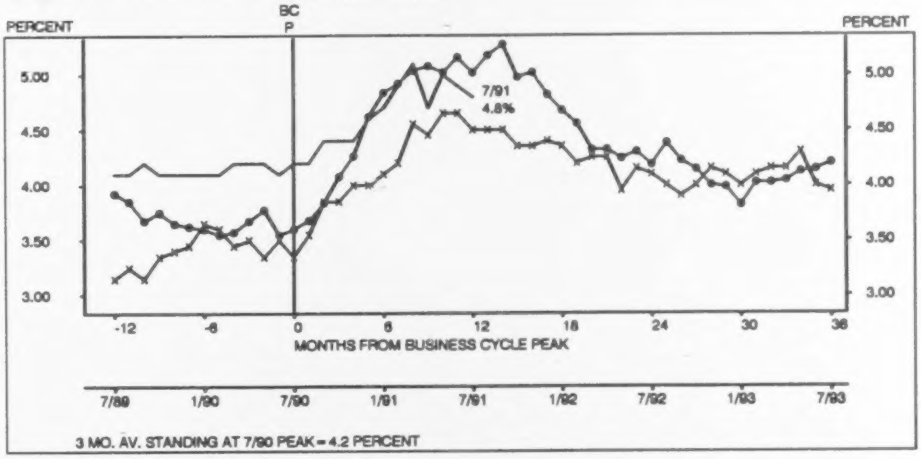
3 MO. AV. STANDING AT 7/90 PEAK=2.3 PERCENT

38. Initial Claims, Unemployment Insurance



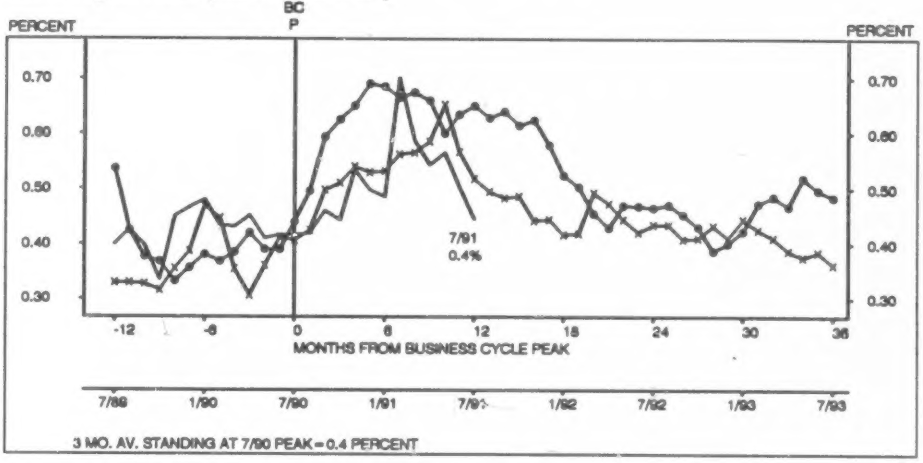
3 MO. AV. STANDING AT 7/90 PEAK=352 THOUSAND

39. Short-Duration Unemployment Rate



3 MO. AV. STANDING AT 7/90 PEAK=4.2 PERCENT

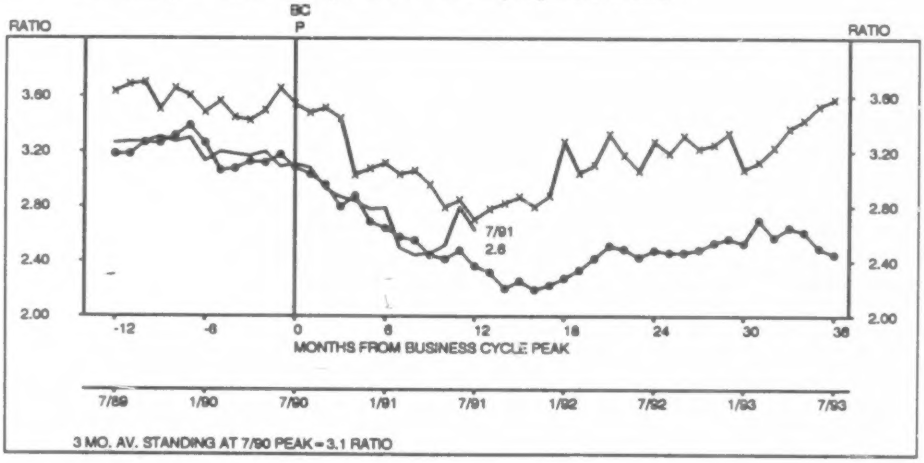
40. Layoff Rate (Under 5 Weeks)



3 MO. AV. STANDING AT 7/90 PEAK=0.4 PERCENT

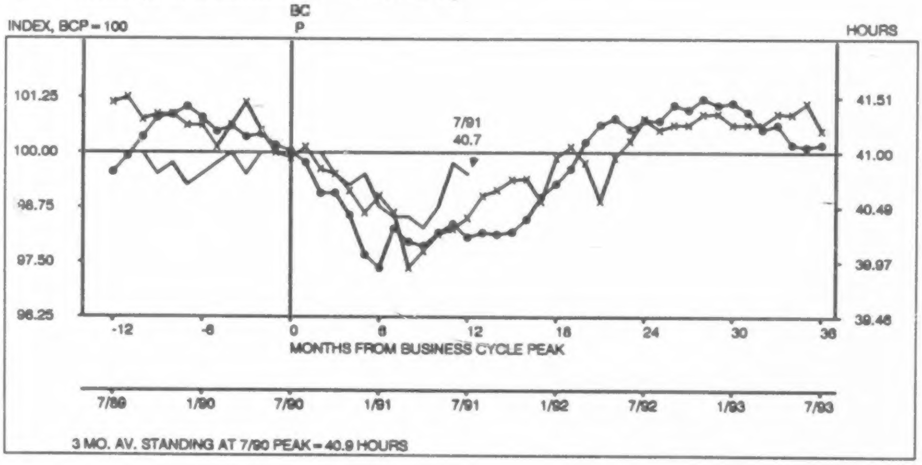
The layoff rate has dropped below the average level in previous recessions.

41. Voluntary to Involuntary Part-Time Employment Ratio



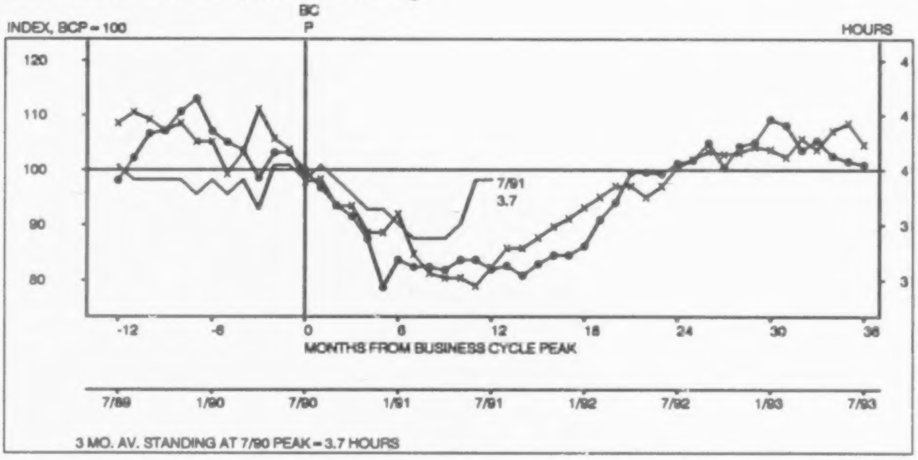
3 MO. AV. STANDING AT 7/90 PEAK=3.1 RATIO

42. Average Workweek, Manufacturing



3 MO. AV. STANDING AT 7/90 PEAK=40.9 HOURS

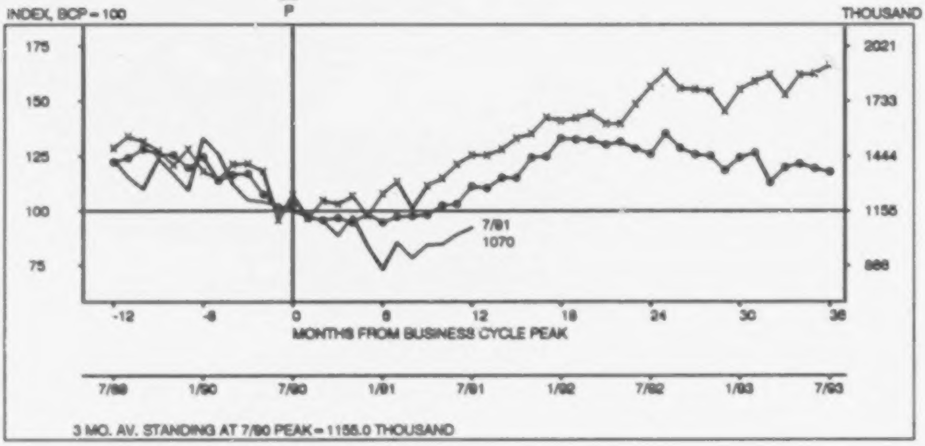
43. Overtime Hours, Manufacturing



3 MO. AV. STANDING AT 7/90 PEAK = 3.7 HOURS

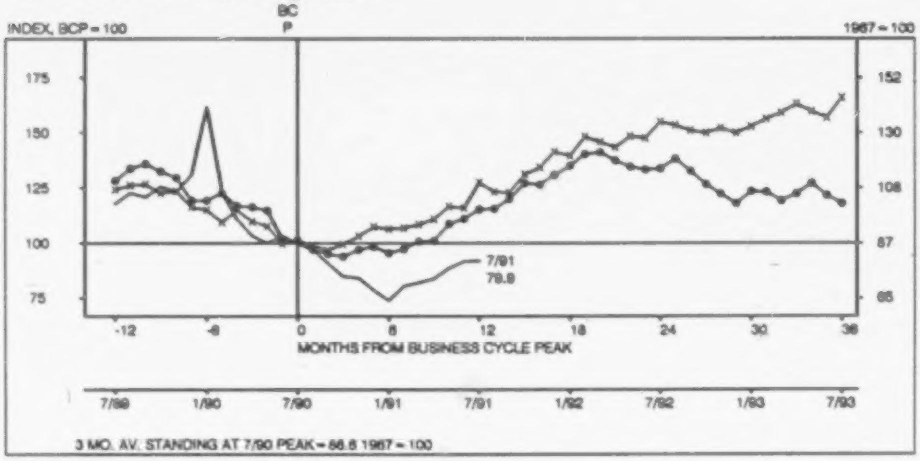
The sharp rise in overtime hours in manufacturing is evidence of the strong rebound in this sector of the economy.

44. New Private Housing Starts



3 MO. AV. STANDING AT 7/90 PEAK = 1155.0 THOUSAND

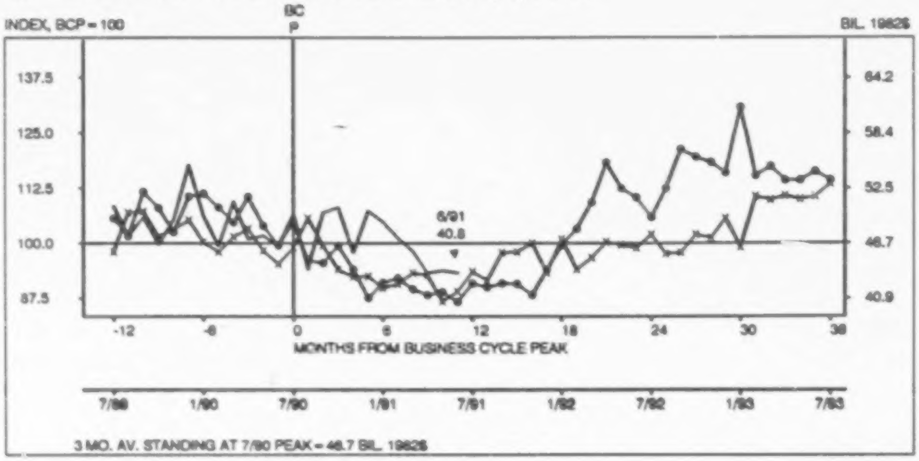
45. New Private Housing Permits



3 MO. AV. STANDING AT 7/90 PEAK = 86.6 1967 = 100

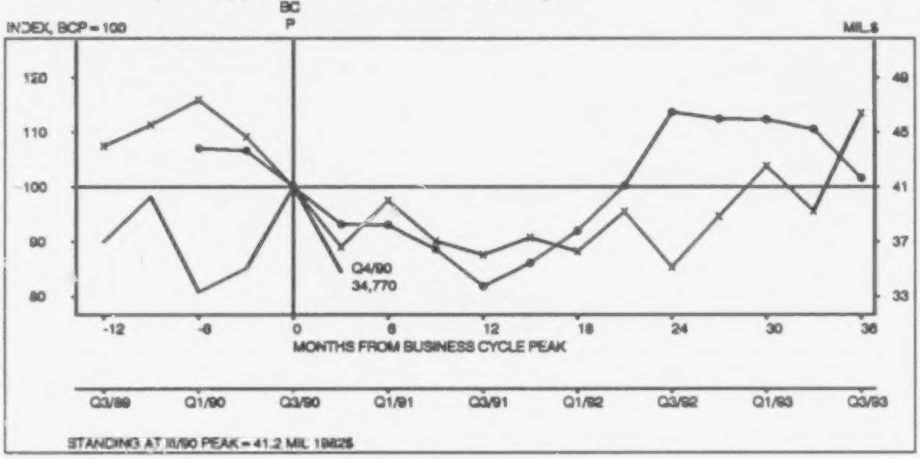
Despite some signs of life, the housing sector continues to perform much worse than at comparable points in past cycles.

46. Contracts and Orders for Plant and Equipment



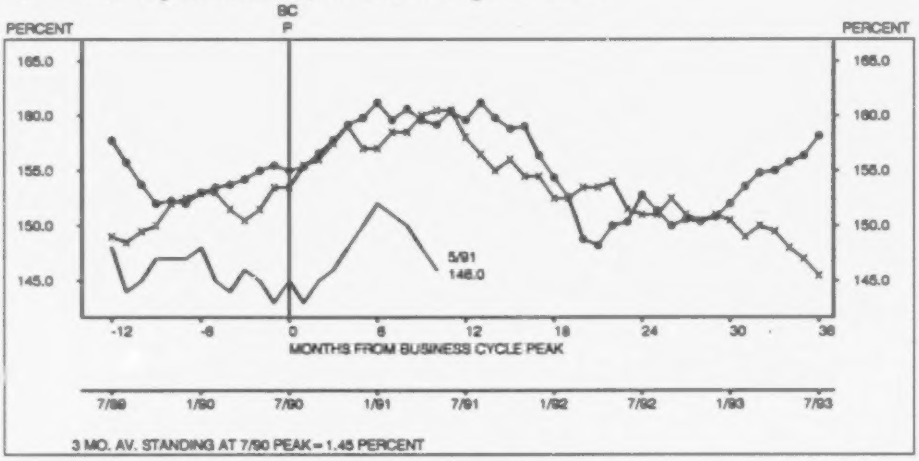
3 MO. AV. STANDING AT 7/90 PEAK = 46.7 BIL. 1982$

47. New Capital Appropriations, Manufacturing***



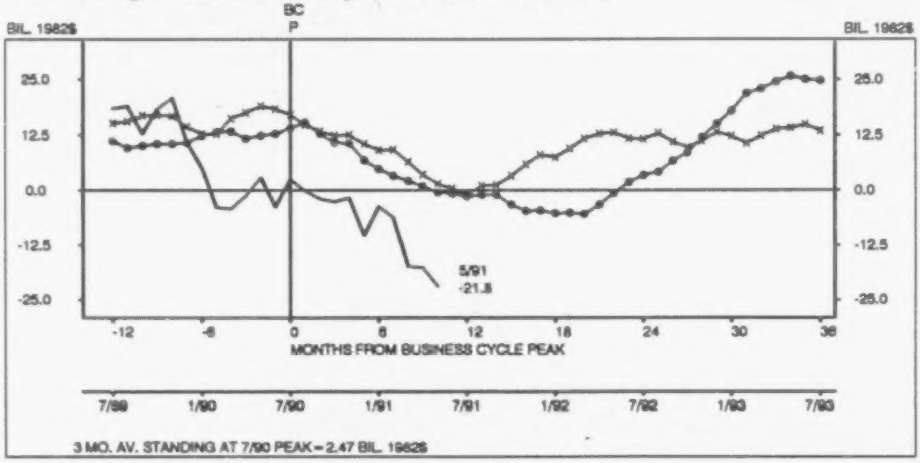
STANDING AT III/90 PEAK = 41.2 MIL. 1982$

48. Inventory/Sales Ratio, Manufacturing and Trade



3 MO. AV. STANDING AT 7/90 PEAK = 1.45 PERCENT

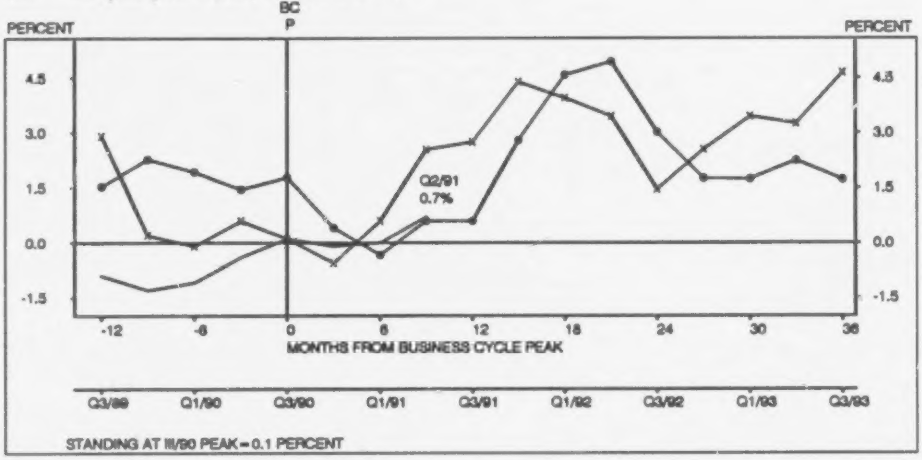
49. Change in Manufacturing and Trade Inventories



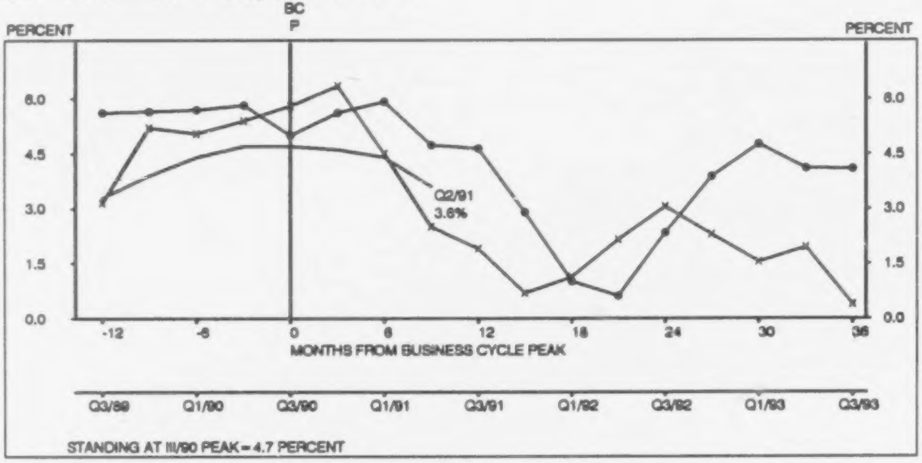
3 MO. AV. STANDING AT 7/90 PEAK = 2.47 BIL. 1982$

*** 1948-49 recession omitted from average of severe recessions, because series begins later.

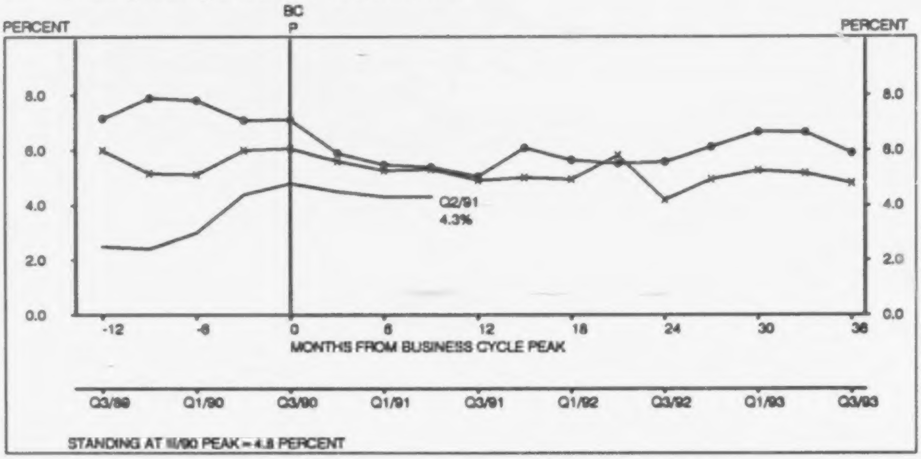
50. Output per Hour, Growth Rate



51. Unit Labor Costs, Growth Rate

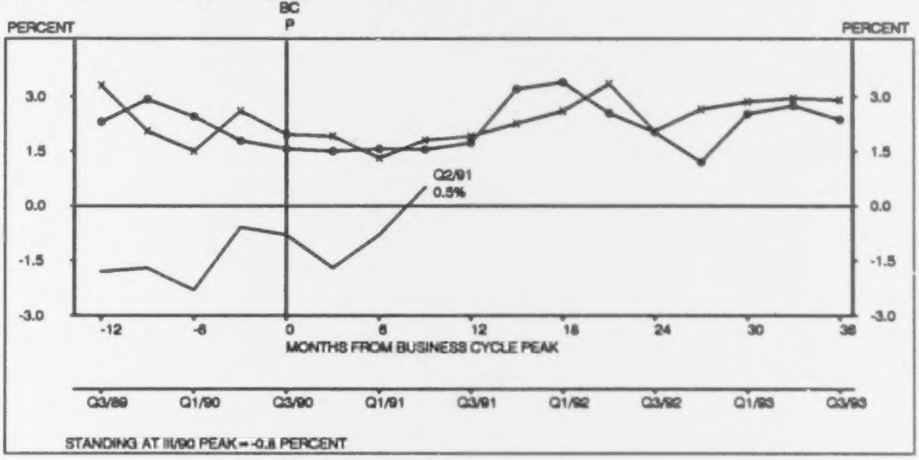


52. Hourly Compensation, Growth Rate

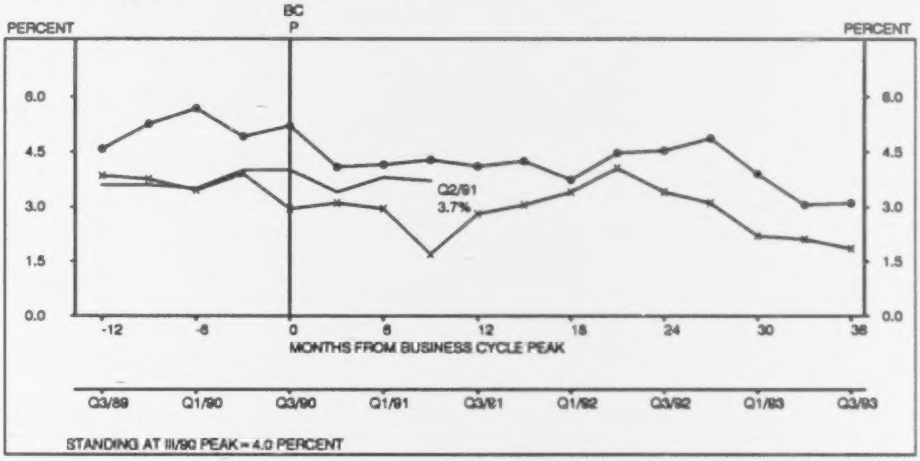


Rising growth in output with falling growth in labor costs should help profits.

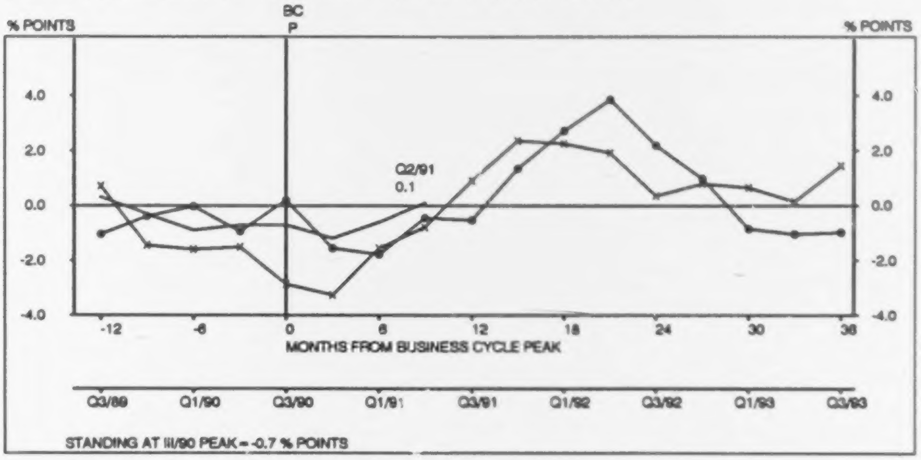
53. Real Hourly Compensation, Growth Rate



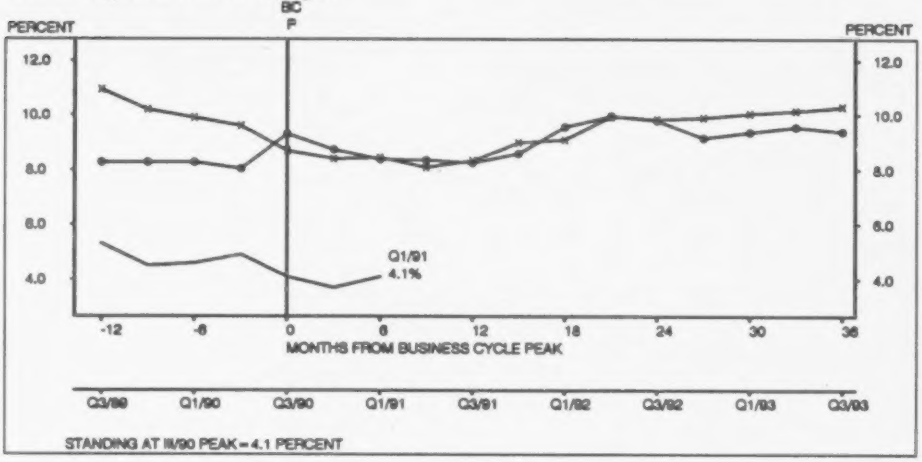
54. Selling Price Index, Growth Rate



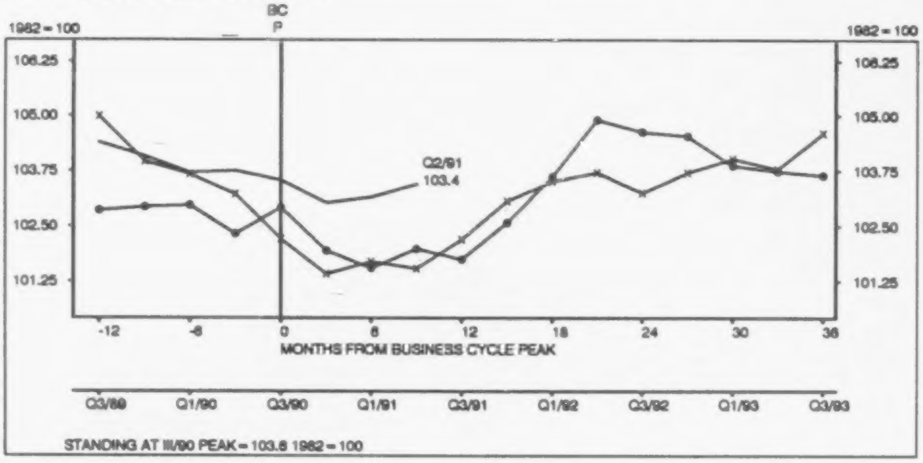
55. Growth Rate in Prices Minus Growth Rate in Costs



56. Corporate Profit Margin

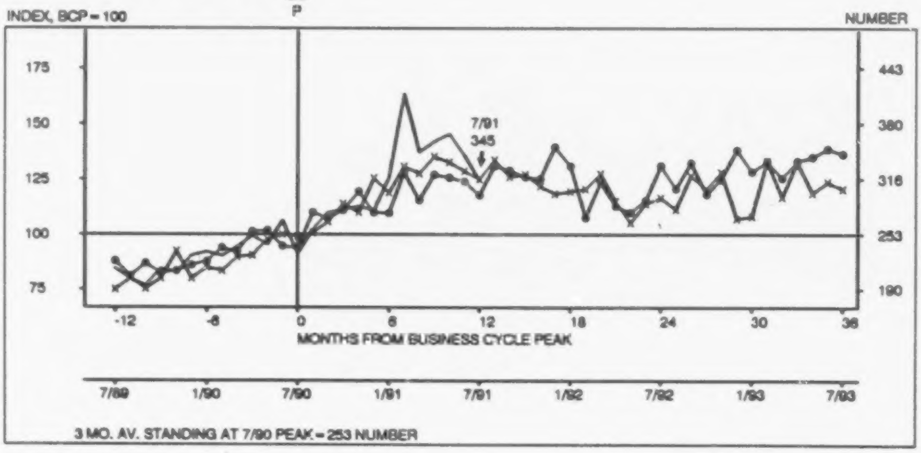


57. Price/Labor Cost Ratio

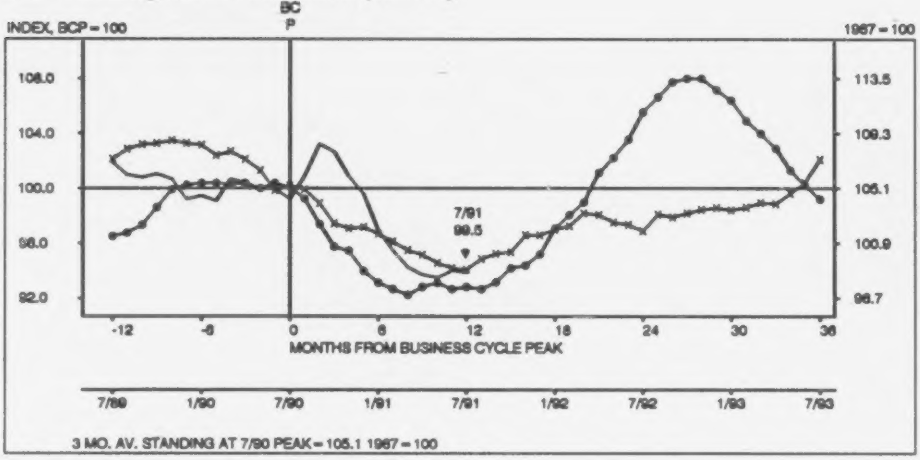


Corporate profit margins continue to be dismal, while the ratio of prices to labor cost is relatively high. Clearly, the pressure on corporate profits is coming not from labor costs but from other sources like debt-servicing costs.

58. Large Business Failures



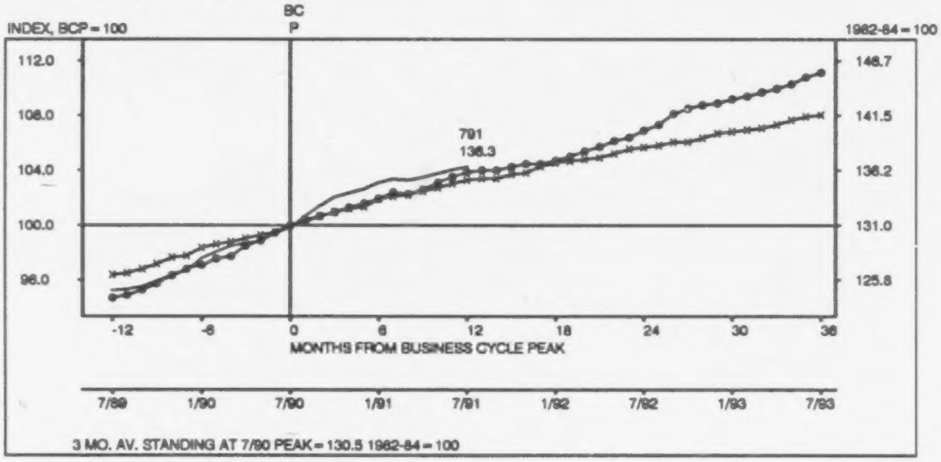
59. Leading Index of Inflation (CIBCR)



3 MO. AV. STANDING AT 7/90 PEAK = 105.1 1967 = 100

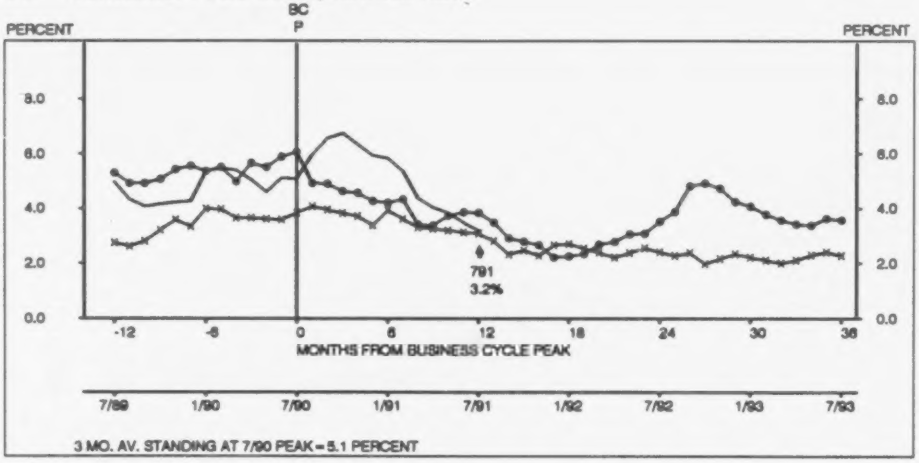
The leading inflation index says the inflation rate should continue to subside.

60. Consumer Price Index



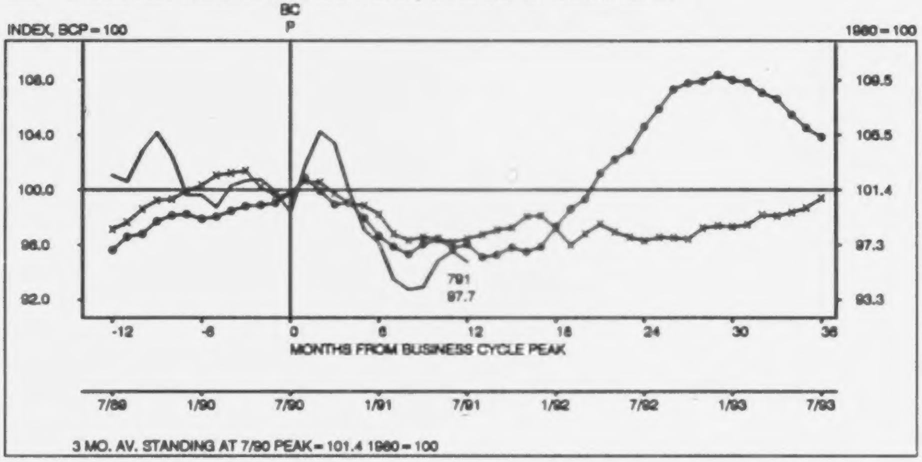
3 MO. AV. STANDING AT 7/90 PEAK = 130.5 1982-84 = 100

61. Consumer Price Index, Growth Rate

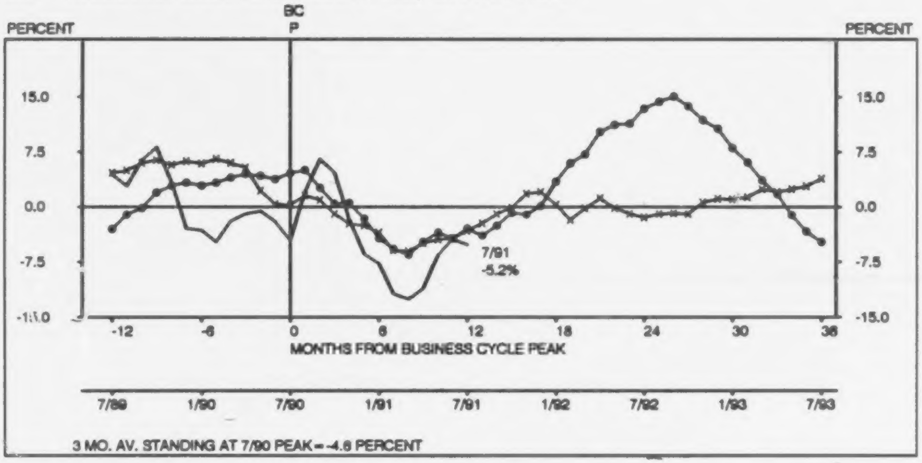


3 MO. AV. STANDING AT 7/90 PEAK = 5.1 PERCENT

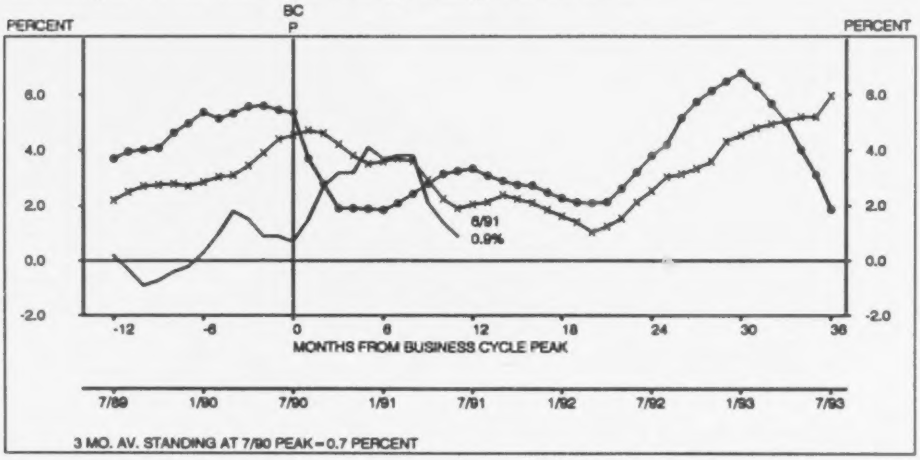
62. Industrial Materials Price Index, Journal of Commerce



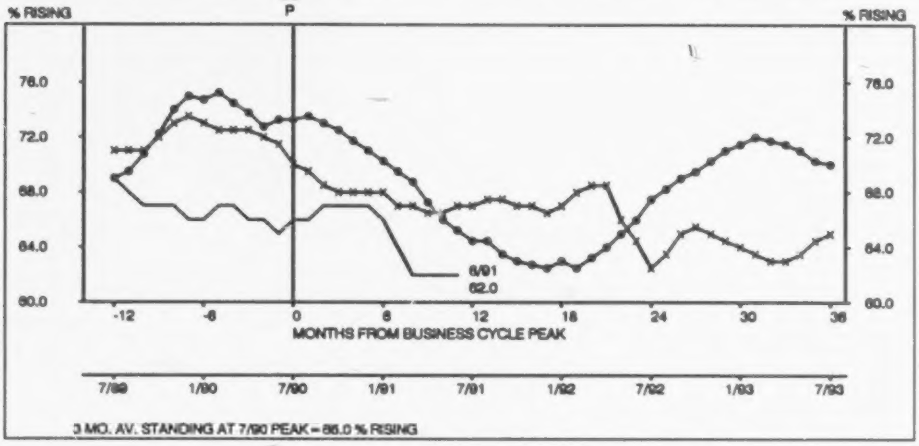
63. Industrial Materials Price Index, Growth Rate



64. Import Price Index (Excluding Fuels), Growth Rate

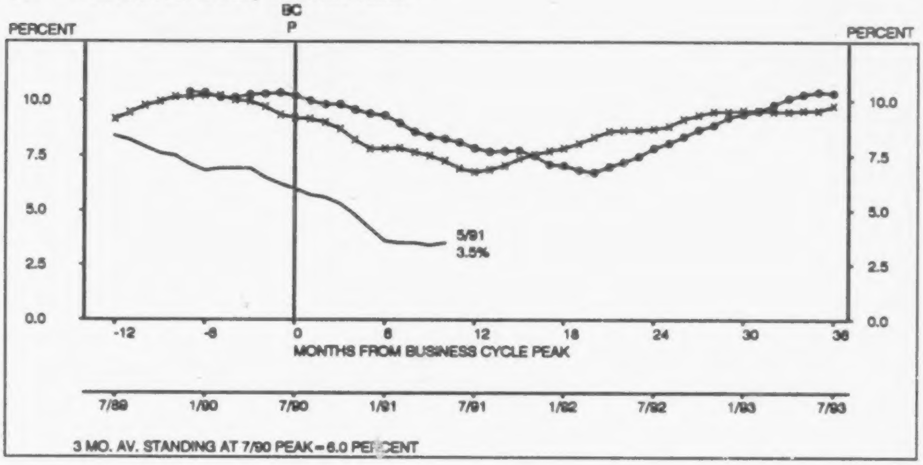


65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)***



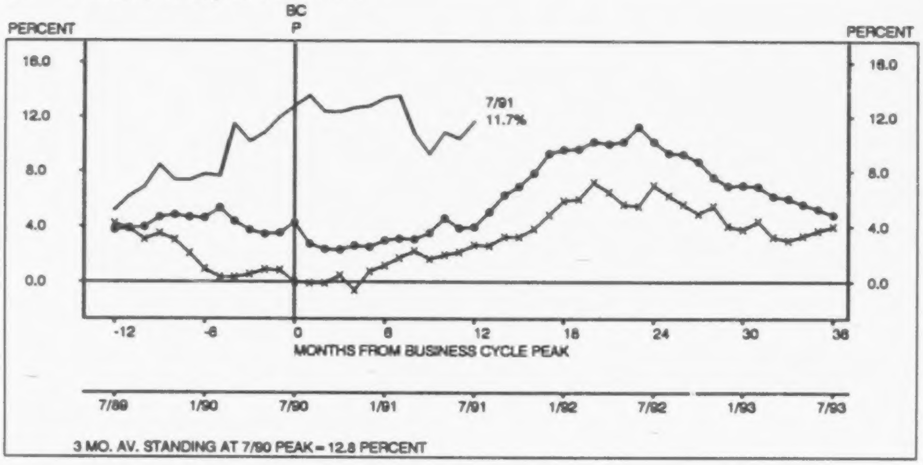
*** 1948-49 recession omitted from average of severe recessions, because series begins later.

66. Nonfederal Debt, Growth Rate**



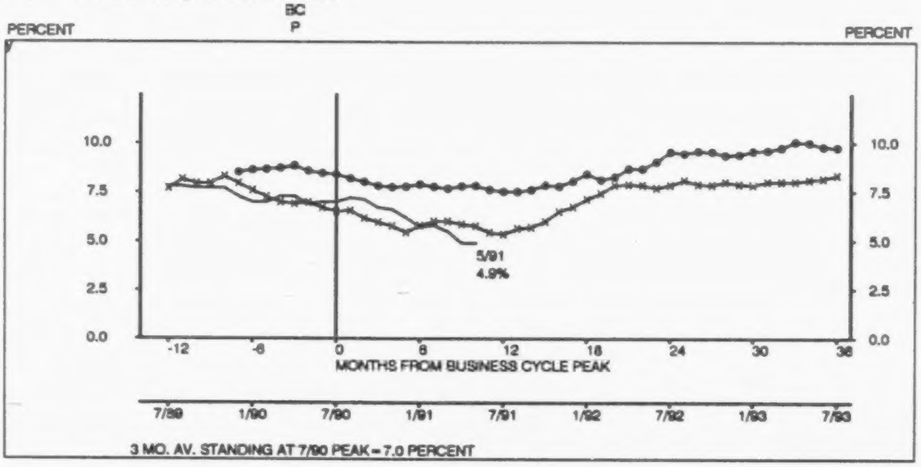
3 MO. AV. STANDING AT 7/90 PEAK=6.0 PERCENT

67. Federal Debt, Growth Rate



3 MO. AV. STANDING AT 7/90 PEAK=12.8 PERCENT

68. Total Debt, Growth Rate**

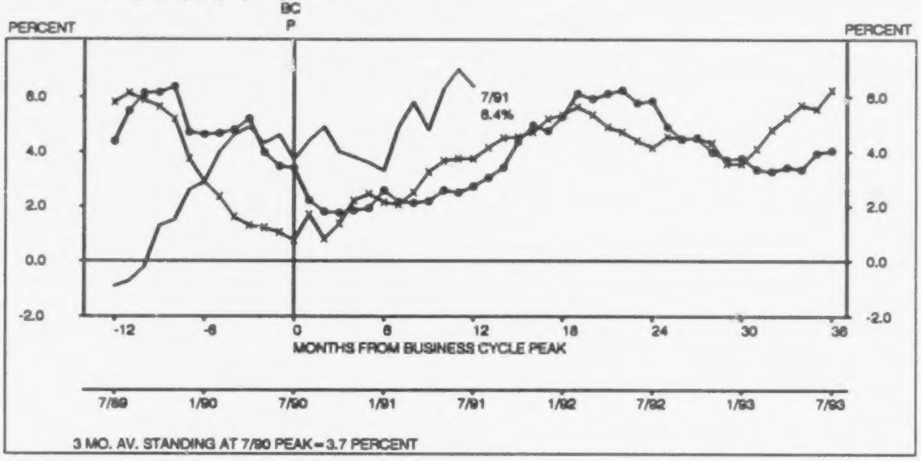


3 MO. AV. STANDING AT 7/90 PEAK=7.0 PERCENT

Nonfederal debt, which includes the debt of state and local governments, businesses and consumers, grew far more slowly than in past recessions, providing less stimulus to the economy. But Federal debt continues to grow much faster than the average for this point in past cycles.

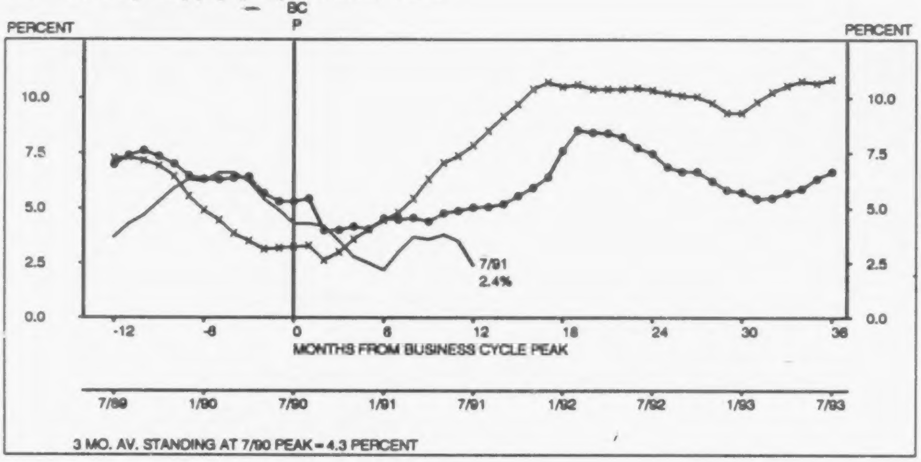
** 1948-49 and 1953-59 recessions omitted from average of severe recessions because series begin later.

69. Money Supply (M1), Growth Rate



3 MO. AV. STANDING AT 7/90 PEAK = 3.7 PERCENT

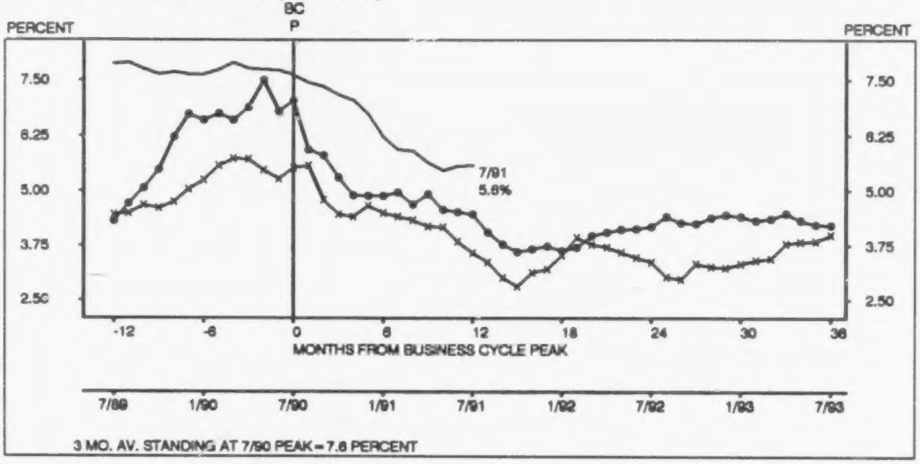
70. Money Supply (M2), Growth Rate



3 MO. AV. STANDING AT 7/90 PEAK = 4.3 PERCENT

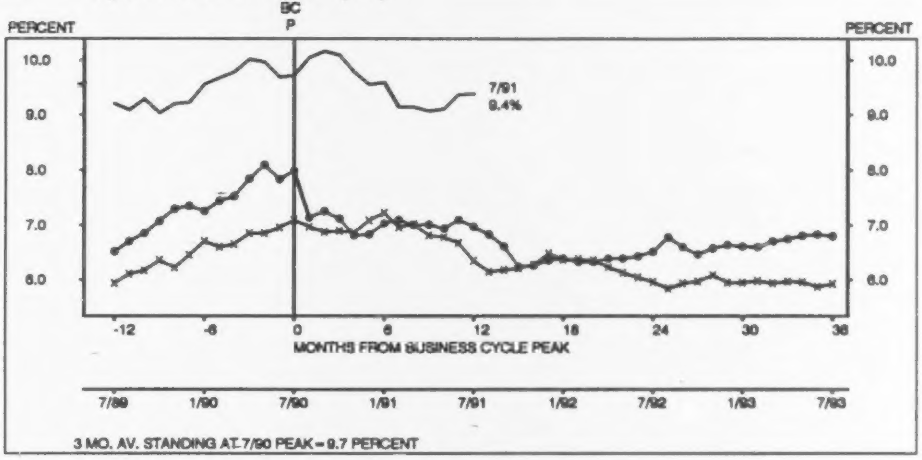
Growth of Money Supply M2 is remarkably slow and declining further.

71. Treasury Bill Rate (3-Month)

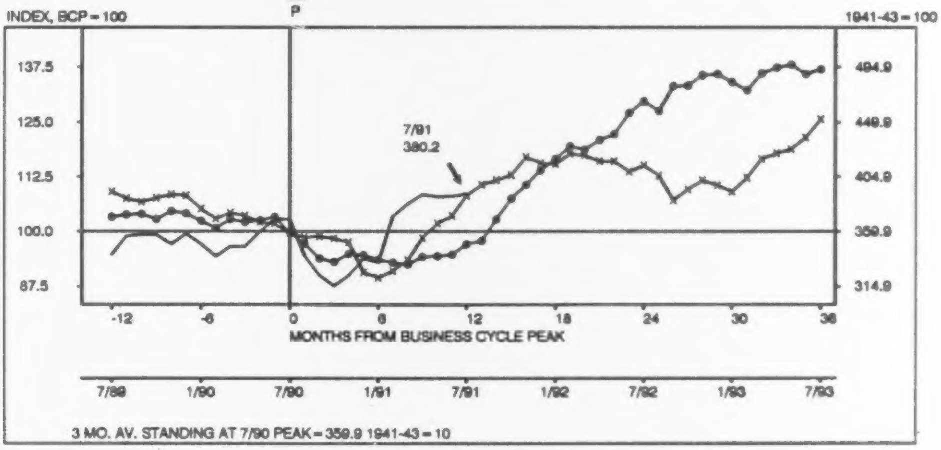


3 MO. AV. STANDING AT 7/90 PEAK = 7.8 PERCENT

72. Corporate Bond Yields (AA)



73. Common Stock Price Index (S&P 500)



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The series numbers of indicators that are reported in the Survey of Current Business (BEA) are noted above. Readers may wish to consult the 1984 *Handbook of Cyclical Indicators* for further information on particular time series. The letter symbols L, C, Lg and U identify the timing classification of the series with respect to business cycles, as shown in the Survey of Current Business (BEA). L = leading, C = coincident, Lg = lagging, and U = unclassified because of inconsistency in timing. The three letters in parentheses refer to peaks, to troughs, and to peaks and troughs, respectively. When the series we use is similar to but not identical with the BEA series, the BEA classification has been used. In the case of growth rates, we show the classification only where a similar growth rate for the same or similar series is classified in BEA.

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The Center for International Business Cycle Research (CIBCR), established in 1979, specializes in the study of trends and fluctuations in economic growth and inflation in the United States and other countries. The analysis contained in this report is the result of the Center's ongoing research programs on U.S. business cycles. Readers are invited to submit comments and suggestions concerning this publication. In addition, readers wishing to secure data compiled by the Center on the ten other major industrial countries or copies of research reports may do so by communicating with:

Center for International Business Cycle Research
Uris Hall, Columbia University
New York, NY 10027
Telephone: (212) 280-2916

ABOUT THIS REPORT

Recession-Recovery Watch is a quarterly report designed to analyze current business cycle trends in terms of previous recession or recovery patterns in the United States.

This report was begun in August 1979, under the direction of Dr. Geoffrey H. Moore, following the methodology for measuring recessions developed at the National Bureau of Economic Research. Although no forecasts are made, the materials in this report do permit glimpses into the future: first, by analyzing the behavior of various leading indicators; second, by indicating what is likely to happen in terms of what did happen in previous recessions and recoveries.

The leading indicators used in this report are relevant to future output and employment because they represent actions taken, like the placing of orders, that will result in future output, or because they reflect factors, like profits, that influence future decisions on output. The record of what happens during the latter stages of business cycles is relevant because of the family resemblance among successive cycles, a resemblance that has its origin in the processes by which business cycles are generated. Every business cycle has its own surprises, partly because of policy actions taken, but many developments are not surprising, having occurred many times before. The historical comparisons contained in this report help one anticipate what is typical and distinguish it from the unusual.

Other CIBCR publications include International Economic Indicators, a monthly 80-page compilation of charts and data on leading and coincident indicators for eleven industrial countries. Monthly press releases are issued on a leading index of inflation and a leading employment index for the United States. A bulletin on leading and coincident Service Sector Indicators is also published monthly.

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